Investigating business' contribution to climate change governance in areas of limited statehood: the case of South Africa and Kenya

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Abstract

Climate change and the related social and economic challenges present society with problems at multiple levels. There is a diverse range of actors who are contributing to climate change governance, including those who are going to be affected by the impacts. In areas of limited statehood were states have varying degrees of deficits in their abilities to steer effective climate change mitigation and adaptation, private actors such as business organisations are expected to step in. This research set to investigate how and why companies in South Africa and Kenya contribute to climate change governance. South Africa and Kenya are selected because they represent areas which have varying levels of limited statehood.

The results from the content analysis and the case studies reveal that companies' climate change governance contributions can be characterised into four configurations: laggards, emergent planners, efficiency drivers and visionaries. The laggards display very limited responses and if anything adopt cosmetic initiatives. The majority of Kenyan and South African firms are in this cluster. Emergent planners are in the early stages of implementing self-regulatory initiatives mostly at the firm level. The efficiency drivers which consist of mostly energy intensive companies engage in co-regulation which involves partnering with the state to set and implement rules in energy efficiency accords in both countries. The firms, in turn, self-regulate themselves by internally implementing the energy efficiency accord guidelines. The final configurations, the visionaries, make more comprehensive mitigation and adaptation governance contributions focusing on collective self-regulation and adopting the role of the "inspector" along their supply chain.

On the basis of these empirical findings, the research identifies different ways in which the institutional, organisational and issue specific drivers interact to explain the variations in firms' governance contributions between countries, sectors and different companies. First, corporate climate change governance contributions vary between South Africa and Kenya as a result of the countries' different levels of statehood. South African firms are more responsive to climate change than Kenyan companies because they are more exposed to the shadow of hierarchy. Statehood is a significant factor in the context of possible alternative explanations. Second, the climate change governance contributions vary between sectors due to the combined effect of the shadow of anarchy and the task complexity associated with securing energy or water supply among "high salience" sectors. Furthermore, carbon intensive sectors have strong associations which enable them to address collective problems linked to climate change.

Lastly, there are significant levels of variance in the governance contributions between the different types of companies, that is, between large, multinational companies and smaller, domestic firms. The large firms engage in more comprehensive mitigation and adaptation efforts due to organisational factors which include “asset specificity” and organisational resources.

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Acronyms and Abbreviations

CDM	Clean Development Mechanism
CDP	Carbon Disclosure Project
CSR	Corporate Social Responsibility
DJSI	Dow Jones Sustainability Index
EEA	Energy Efficiency Accord
EIUG	Energy Intensive User Group
FDI	Foreign Direct Investment
FfF	Farming for the Future
FIT	Feed in Tariff
GBJ	Good Business Journey
GHG	Greenhouse Gas Emissions
IEA	International Energy Agency
IPP	Independent Power Producer
IPCC	Intergovernmental Panel on Climate Change
ITTCC	Industry Task Team on Climate Change
JSE	Johannesburg Stock Exchange
KAM	Kenya Association of Manufacturers
KEPSA	Kenya Private Sector Alliance
Kwh	Kilowatt Hour
MAP	Market Incentive Programme
MBI	Market-Based Incentive
NAS	National Adaptation Strategy
NBI	National Business Initiative

NCCRS	The National Climate Change Response Strategy
NSE	Nairobi Stock Exchange
NERSA	National Energy Regulator of South Africa
NGO	Non-Governmental Organisation
OECD	Organisation for Economic Co-operation and Development
PPC	Pretoria Portland Cement
SARI	South African Renewables Initiative
UCT	University of Cape Town
UN	United Nations
UNDP	United Nations Development Programme
UNEP-FI	United Nations Environmental Programme - Finance Initiative
WWF	World Wide Fund for Nature

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CHAPTER ONE
INTRODUCTION

1.1: Background and context

Globally, climate change has attracted the attention of business managers and scholars because its impacts have far reaching consequences on many facets of companies. The actual or potential physical, regulative, economic and strategic impacts present risks and opportunities for companies in different sectors with varying characteristics (Kolk and Pinske, 2004). In its role as investors, polluters, innovators, manufacturers and employers, business has become a key part of the fabric of global environmental governance (Levy, 2005). Hence, in recognition of the serious scientific, social and economic implications of climate change (Stern, 2006; UNPCC, 2007), it is hoped that business can make a significant contribution to climate change governance.

In Africa, the predicted severe climate change impacts will require greater private sector participation because they possess the necessary capabilities to tackle such a complex challenge (Carroll and Shabana, 2010; Mintzberg, 1983; Shrivastava, 2007). In both management and governance literature, there is limited understating of how and why these companies operating in developing economies contribute to governance. Therefore, there is a greater need for empirical research on business contributions to climate change in developing economies, an area were governments have varying limited capacities to develop and implement explicit climate change regulations (Börzel and Risse, 2010; Glunan, 2010; Risse and Lehmkuhl, 2006). Instead, most of the management literature focuses on corporate climate change strategies in areas such as North America and Europe which have “consolidated statehood” were the government can develop and implement regulations to influence corporate behaviour (Goodall, 2008; Levy and Kolk, 2002; Kolk and Pinkse, 2009; 2007; 2005; Hoffman, 2010; 2009).

Attempting to research corporate climate change governance contributions in Africa could be viewed as less valuable to theory because the study will be simply examining an existing well-established construct

(George, 2012). Even though there could be a prescriptive value in understanding how organisations contribute to climate change governance in a different context, that does not necessarily translate to a framing that is valuable to theory because the underlying theory and hypothesis are the same as they have been in research in other settings, the only thing that has changed is the context (George, 2012). However, in the domain of governance in an emerging policy field, such as climate change, we can expect the institutional context to play a vital role (Maguire *et al*, 2004; Phillips *et al*, 2000). Hence, one of the premises of this research is that the different levels of statehood in African countries, relative to the developed economy context and also within Africa itself, have important theoretical implications.

Most of the current research on corporate responses to climate change focuses on ideal environments in which the state has full legitimate authority to enforce rules (Risse and Lehmkuhl, 2006). However, outside these environments there are areas of "limited statehood", from developing and transition countries to "failing" and "failed" states which lack the capacity to implement and enforce regulations (Clunan and Harold, 2010; Risse and Lehmkuhl, 2006; Wolf, 2008). Risse and Lehmkuhl (2006: 9) define "limited statehood" as 'deficits by a nation-state to perform its core functions of monopolising the use of force and ability to enforce political decisions". Governance literature argues that in areas with consolidated statehood, the state is able to incentivise business to participate in governance through the shadow of hierarchy cast by the state through regulations (Heritier and Lehmkhul, 2008). Does this mean that areas, such as Sub-Saharan Africa which have limited levels of statehood are unlikely to provide governance? This is the question that this research aims to answer by focusing on the role of the private sector as a non-state actor in the policy area of climate change.

The capacity of the state to hierarchically steer effective responses to climate change and other related socio-ecological challenges, for example, reliable water supply are also inherently constrained by the complex nature of the problem (Hamann and Börzel, 2013). Climate change policy comprises two basic strategies: mitigation and adaptation. Mitigation basically refers to efforts to reduce or stabilise GHG emissions whilst adaptation denotes "any adjustments that take place in natural or human systems in response to actual or expected impacts of climate change, aimed at moderating harm or exploiting beneficial opportunities" (Klein *et al*, 2005, p. 580 in Kolk and Pinkse, 2012). Adaptation is particularly pertinent in developing countries because they are more vulnerable to the impacts of climate change (Parry *et al*, 2007; Sokona and Denton, 2001). This presents more complexity to countries with governance gaps because climate change is intrinsically linked to socio-economic problems; hence; adapting to climate change entails concurrently responding to socio-economic challenges which at times conflict with climate

change (Ziervogel and Taylor, 2008). These challenges are compounded by numerous gaps including resources, participation, learning, motivation and coordination (Doh and Teegan, 2010; Kolk and Pinkse, 2012; Selsky and Parker, 2005). For instance, countries are still grappling to understand the implications of the diverse climate change policy options and for those countries that have set mitigation and adaptation targets, they still have limited knowledge and means available to achieve these targets (Börzel and Hamann, 2013).

The above mentioned developing country challenges linked to conventional "top-down" hierarchical modes of steering such as state regulation have had limited success in certain contexts (Börzel and Risse, 2005; Jessop, 1998). Hence, more attention is now being placed on "bottom-up" modes of steering in which several non-state actors participate in governance or provision of public goods (Risse and Lehmkhul, 2006). These "bottom-up" approaches are linked to "new modes of governance" which are characterised by involvement of private actors, particularly, civil society and business through voluntary action and/or collaboration (Börzel and Risse, 2010; Mayntz, 2002; 2010; Risse, 2011; Wolf, 2008). This means that business self-regulate themselves by voluntarily adopting climate change strategies via mechanisms of "soft steering" which include bargaining or steering through incentives (Treib *et al*, 2007). In some instances, self-regulating companies press governments to issue stricter regulation in a "race to the top" (Vogel and Kagan 2004; Flanagan 2006; Moi, 2001). With regard to collaboration, business or civil society might be involved in decision making through co-governance with the state (for example Public Private Partnerships) or by taking over governance functions (Börzel and Risse, 2010). This literature on "new modes of governance" has predominantly focused on areas with consolidated statehood such as Europe (Heritier, 2002; Heritier and Lehmkuhl, 2008), leaving gaps for theoretical contributions in areas of limited statehood, were at times the state has completely failed.

The empirical analysis of this study focuses on South Africa and Kenya, countries that are both starting to experience climate change related impacts such as drought which also threatens business (de Wit and Stankiewicz, 2006; Hay *et al,* 2002; Koch *et al*, 2007). The changing weather patterns and resulting ecological and social effects are forecasted to have adverse effects on the Sub-Saharan region, particularly in the agriculture sector which accounts for 30 to 40 percent of Africa's Gross Domestic Product (GDP) (Anderson and Bruckner, 2012; WDI, 2011). These two countries have varying degrees of deficits in their abilities to steer effective climate mitigation and adaptation. On one hand, South Africa has an emerging climate change policy framework which companies are starting to pre-empt. However, the country still has limitations regarding the capacity to implement these policies. On the other hand, Kenya does not have

any explicit climate change regulations but more pro-growth policies which might provide misaligned incentives for business. Furthermore, climate change is absent in the public domain in Kenya as compared to South Africa. These variations provide the basis for carrying out a comparative case study approach which can contribute to both governance and management theory.

Due to the absence of consolidated statehood, many countries in areas of limited statehood also face the challenge of socio-economic development. Therefore, companies in these countries have a twin challenge of contributing to a low carbon economy whilst tackling socio economic challenges. In addition to the varying levels of limited statehood, Africa is also the continent were socio-economic needs are greatest (UNDP, 2012). Life expectancy in many parts of Africa is still only 51 years on average (and as low as 38 years in some countries), while gross income per capita averages US$ 862 (dropping as low as US$90 in other places) and adult literacy is less than 48% in some countries (UNDP, 2012). Furthermore, despite being relatively endowed with energy resources, Africa only generates 3,1% of the world's electricity and this is a major barrier to economic development (REN21, 2011). Furthermore, energy production tends to be costly, relying heavily on fossil fuels (about 80% of electricity generation) (REN21, 2011).

The above discussion highlights the need to investigate the governance functions that are performed by business in areas of limited statehood in the context of climate change. Despite the low shadow of hierarchy, it is expected that the private sector will either participate in collaboratory efforts involving the public sector and civil society or they will voluntarily self-regulate themselves. These collaboratory and voluntary self-regulating activities take different forms of mitigation and adaptation strategies.

1.2 Research Questions

The central research question for this thesis is: how and why are companies in areas of limited statehood contributing to climate change governance? Companies in South Africa and Kenya are used to investigate this research question. The following sub-research questions are used to further explore the central research question.

(1) What are the predominant climate change governance contributions by the private sector in areas of limited statehood?

(2) What are the conditions and motivations that give rise to these governance contributions?

1.3 Private sector contributions to climate change governance

Governance is broadly defined as "organised efforts to manage the course of events in a social system". (Burris *et al*, 2008:3). The concept of governance allows scholars to conceive of politics beyond the state (Börzel, 2012). Hence, with a focus on the private sector, this thesis attempts to explain how non-state actors contribute to governance by setting and implementing rules that reduce negative externalities and govern the provision of public goods and services. More specifically these private sector contributions are focused on climate change governance. Climate change governance pertains to, first those efforts that seek to maintain a stable climate as an essential global public good – including the norms, rules and procedures that aim to mitigate climate change through reduction of atmospheric greenhouse gas, through reduced GHG emissions. Secondly, climate change governance seeks to ensure that social and ecological systems are able to adapt and effectively respond to the impacts of climate change that are already occurring and those that will occur in the future.

The idea that business firms contribute to social and environmental governance is not novel. Corporate sustainability literature has extensively discussed how and why companies respond to environmental and social issues (Bansal and Roth, 2000; Fig, 2005; Kolk and Pinkse, 2009). Globalisation literature indicates that if business firms are left on their own they will not engage in social and environmental governance. Instead, business is mainly blamed for being responsible for much of the environmental pollution, for example, GHG emissions and many social problems (Revesz, 1992; Porter, 1999; Wilson, 1996). The 'race to the bottom" literature indicates that global competition induces firms to invest in countries that minimise environmental and social regulations (Wilson, 1996; Taylor and Copeland, 2004). Likewise, firms will press governments with strict environmental regulations to lower the regulations in order to avoid losing Foreign Direct Investment (FDI)(Bhagwati and Hudec, 1996; Lofdahl, 2002).

However, there are instances in which firms self-regulate themselves to contribute to environmental and social governance, even going to the extent of pressing governments to issue stricter regulations in a "race to the top" (Börzel *et al*, 2009; Potoski and Prakash, 2005; Prakash and Potoski, 2007). However, there are authors who are still sceptical about the role of business firms in the environmental or social governance (Schillemans, 2008; Heritier and Lehmkuhl, 2008). These authors argue that whilst business firms might engage in private and/or collective self-regulation, external intervention in the form of a shadow of hierarchy cast by the state is necessary for this form of steering to be effective (Heritier and Lehmkuhl, 2008; Schmitter and Streeck, 1985). Therefore, the threat of legislation is necessary for companies to self-

regulate themselves. However, the success of such regulatory threats depends on their credibility, that is, on their ability and willingness of the state to implement the regulations (Halfteck, 2006; Heritier and Lehmkuhl, 2008).

Nevertheless, as discussed in this thesis, firms can engage in climate change governance even if the shadow of hierarchy is weak. At the global level, firms contribute to drafting climate change related policies and submit codes of good conduct through collective-self regulation (Ronit and Schneider, 1999; Cutler *et al*, 1999). International organisations such as the UN in collaboration with non-state actors including the private sector develop and implement global standards such as the Global Compact and Global Reporting Initiatives. The effectiveness in implementation of these standards is always a challenge because of problems related to monitoring and accountability. At the global, national and local level business contribute to climate change governance through various modes of non-hierarchical coordination which focus on private and collective self-regulation. Private self-regulation involves firms internally implementing climate change-related standards and guidelines such as energy efficiency and sustainability reporting. On the other hand, collective self-regulations involves modes of steering such as delegation, cooptation, co-regulation (Börzel and Risse, 2005). Furthermore, the private sector can participate in public regulation. This could involve political activities such as lobbying to influence the direction of policy (Levey and Egan, 2003). In many instances, corporate political activities are directed at opposing climate change regulations (Kolk and Pinkse, 2007; Levy and Rothenberg, 2002).

Transaction costs economists (Williamson, 1998; 2002; Brousseau and Fares, 2000; Oxley, 1999) have revealed how buyer firms have increasingly adopted the role of an "inspector" vis-a-vis their supply chain, deploying supervision activities over their suppliers' products and production processes to ensure that they comply with environmental regulations and standards. In areas with consolidated statehood this is unusual because these are functions commonly performed by public actors under a legislative mandate (Heritier *et al*, 2009). In areas of limited statehood firms can be expected to engage in this form of governance because the state has limited capacity to monitor firms' activities. The governance contributions are driven many factors which are discussed below.

1.4. Explaining the conditions and drivers to private sector contributions to climate change governance

In addition to exploring the various climate change governance contributions by the private sector, this thesis also contributes to current debate on the conditions and drivers to the new modes of governance in areas of limited statehood. Current literature on business contributions to social and environmental governance has emphasised the significance of regulations or the threat of regulations as a driving force (Hamann and Börzel, 2013; Engau *et al*, 2009). This suggests a prominent role for institutional theory, which emphasises the role of external factors in assisting the companies to gain or enhance their legitimacy. In practice businesses' action are often motivated by both legitimacy and competitiveness. However, in areas of limited statehood, the shadow of hierarchy cast by the state through regulation is limited. Therefore, other functional equivalents to the shadow of hierarchy exist which drive companies to engage in governance. These include the normative pressures from global, national and local communities and the shadow of anarchy which relates to the failure of the state to provide governance of public goods. The thesis also outlines the role of organisational factors as driving forces to firms' contribution to climate change governance.

International studies literature has shown that the private sector can contribute to the effective provision of public goods, for example public health or environmental protection through self-regulation and public-private co-regulation (Mayntz, 2003; 2006; Kooiman, 1993; Rosenau and Czempiel, 1992). For decades, climate public policy research has concentrated on inter-state regimes in solving the collective problem (Schreurs and Tiberghien, 2007; Giddens, 2009). However, as revealed in this research, through private and collective self-regulation, non-state actors such as the private sector can contribute to solving such collective problems. These non-hierarchical modes of governance tend to increase the problem solving capacity and legitimacy of climate change governance in terms of "democratic participation and accountability" (Börzel and Risse, 2005: 1).

Much of the empirical research has demonstrated that these non-hierarchical modes of steering often increase the effectiveness of governance of public goods in the presence of a shadow of hierarchy (Heritier and Lehmkuhl, 2008; Börzel, 2009; Heritier and Rhodes, 2010). This "shadow of hierarchy" provided by a strong state through regulations creates an incentive for the private sector to self-regulate and co-regulate. However, the shadow of hierarchy often occurs in areas with consolidated statehood. These are

areas mostly in the developed world for example, the European Union where the state has the ability to ultimately enforce collectively binding decisions.

However, in “areas of limited statehood”, mostly in developing economies where the state lacks the ability to enforce decisions, the shadow of hierarchy is absent (Börzel, 2010; Börzel and Risse, 2012). This creates a dilemma for these areas because the lower the capacity of the state to develop and implement rules, the greater is the need for governance through non-hierarchical coordination (Börzel and Risse, 2010). On the other hand, limited statehood implies a weak shadow of hierarchy, a condition which is likely to result in new modes of governance that are ineffective (Börzel and Risse, 2010). Since these are the conditions in the case study countries of South Africa and Kenya does it mean a failure in the provision of climate change governance? This research attempts to answer this question by exploring how and why the private sector, as a non-state actor contributes to climate change governance with or without governance in areas of limited statehood.

The research reveals that these areas of limited statehood are not doomed. Firstly, due to the fact that the configurations of limited statehood can vary entails that climate change governance can be provided in different territories, sectors along certain policy areas, for example energy or socially within firms of a certain size. For example, the presence of associative structures within the energy intensive sector in Kenya allows for firms in that sector to co-regulate with the state in energy efficiency voluntary accords. This explains why we do not refer to “states of limited statehood” but “areas of limited statehood” because whilst the state has failed to provide a shadow of hierarchy, there are other functional spaces or territories which have a shadow of hierarchy with the state.

In addition to this, there are other ways to induce the private sector to contribute to climate change governance in areas of limited statehood that do not rely on the capacity of the state to cast a credible shadow of hierarchy (Börzel, 2010; Börzel and Risse, 2010). Therefore, non-hierarchical modes of steering by the private sectors are also driven by the functional equivalents to the shadow of hierarchy cast by a strong state. Firstly, external actors including international organisations such as the United Nations and MNCs’ home country regulations can substitute for an absent shadow of hierarchy in areas of limited statehood (Bond and Gresik, 1996; Xu and Shenkar, 2002; Baumann, 2007). Furthermore, normative pressures from local, national and international communities can create a “logic appropriateness” (March and Olsen, 1998) so that the reputation of the private actors is at stake forcing them to contribute to climate change governance. Moreover, the “logic of consequence” is created when the state is unable to

provide certain public goods -- water and energy in this study. This creates a shadow of anarchy which undermines the firms' competitiveness ultimately compelling them to contribute to governance. Finally, private firms can participate in carbon markets because markets can function without some state regulation. Therefore, the research demonstrates that governance with or without the state in areas of limited statehood can work even in the absence of a shadow of hierarchy.

The thesis also revealed that besides the shadow of hierarchy and the functional equivalents to the shadow of hierarchy, organisational factors also play a significant role in driving firms' self-regulatory initiatives. Firstly, firms often adopt the role of "inspectors" to their supply chain because they have a "high asset-specific" relationship with the supply chain (Heritier *et al*, 2009; Williamson, 2002). Asset specificity characterises a transaction or relationship if the related investments are "non-redeployable, specialized and unique to a task. It may take on a variety of forms – physical, human, site, dedicated assets, brand name" (Heritier *et al*, 2009: 3). Furthermore, organisational capabilities and culture can explain the variation in governance contributions between firms with different sizes. For example, MNCs possess more financial and technical resources than SMEs which enables them to participate in collective-self-regulation.

1.4 Outline of thesis

The first chapter provides a background to investigate how and why companies in areas of limited statehood contribute to climate change governance. To investigate these overarching questions, the chapter highlights the theoretical and empirical gaps within the climate change organisational field in areas of limited statehood. Due to a relatively absent "shadow of hierarchy" cast by the state through regulations, companies are most likely to adopt self regulatory initiatives to compensate for the institutional voids. In addition to this, companies might also engage the public sector in co-regulation, for example, through partnerships in which they make decisions together. The absence of a credible shadow of hierarchy might also create an incentive for companies to foster self-regulation to avoid a "shadow of anarchy". The "shadow of anarchy is more prevalent in policy areas which have high task complexity which the state struggles to provide and/or manage, for example, water supply. In some countries which have some form of shadow of hierarchy, companies might engage in political activities to influence the direction of these regulations to meet their strategic needs. On the other hand, management theory puts more emphasis on the role organisational drivers such as organisational capabilities, culture and leadership play in providing economic incentives for corporate ecological responses.

Chapter two provides a conceptual framework which was used to design the research methodology and collect data. To develop this conceptual framework, the chapter reviews various governance, institutional and strategic management literature which could help in providing conceptual guidelines in investigating how and why companies in areas of limited statehood contribute to climate change governance. The first section discusses the concept of climate change and its impacts to the continent of Africa. The second section of the chapter discusses the different modes of governance in areas of limited statehood. The third and forth sections focus on reviewing the different modes of non-hierarchical steering and the conditions and drivers for these governance options. Section five and six discuss mitigation and adaptation governance contributions which are being adopted by companies, particularly in areas with consolidated statehood. The mitigation activities also include political activities to influence the direction of policy where a regulatory framework is emerging. The final section of the chapter discusses the institutional and organisational drivers to companies' climate change activities.

Chapter three outlines the mixed method research approach adopted in this study. The conceptual discussion in chapter two is used to guide the study in investigating how and why companies respond to climate change in areas of limited statehood. Companies in South Africa and Kenya are selected as case studies, because these countries have different institutional voids as a result of the varying levels of limited statehood. The research object is defined as the climate change organisational field, in which organisations and institutions interact. To examine this research object the research utilised a survey and a case study approach. The survey used content analysis to understand the climate change responses of the top 100 listed companies on the Johannesburg Stock Exchange in South Africa and all the 45 listed companies on the Nairobi Stock Exchange in Kenya. The main goal of the content analysis was to identify the main organisational configurations in response to climate change. The case study approach focused on 18 companies in three different sectors (banking, food and drink manufacturing and heavy industrials). The methods of data collection and analysis for both the survey and case studies are also discussed in this chapter.

Chapter four discusses the findings from the content analysis survey. Interviews data from the case studies is used to support and provide explanation for some of the results from the survey. The content analysis data was analysed using cluster analysis and it revealed four configurational approaches adopted by companies in South Africa and Kenya. In South Africa, four clusters emerge (laggards; emergent planners; efficient drivers and visionaries), whilst in Kenya three clusters emerge (laggards; emergent planners; efficient drivers). The discussion in the chapter focuses on explaining how these clusters contribute to

climate change governance. The analysis of these clusters also reveals that the corporate responses to climate change vary across the countries and between and within the sectors.

Chapter five and six provides an overview of how and why companies in South Africa and Kenya, respectively contribute to climate change governance. Firstly, the chapters discuss the mitigation and adaptation governance contributions of business firms in these countries. In South Africa it is revealed that companies in private self-regulation; collective private self-regulation; co-regulation and involvement in public regulation. Secondly, the chapters provide explanatory factors on why the companies engage in each of these new modes of governance and why there is variation between and within sectors.

The final chapter seven provides a discussion of the research findings and the contributions to literature. Section 7.1 provides a discussion of each of the governance contributions to climate change mitigation and adaptation. Section 7.2 explains the drivers to each of these governance contributions. Section 7.3 provides the explanatory factors regarding the country level variations and those between and within sectors. The last two sections discuss the theoretical contributions of the study and the avenues for further research

CHAPTER TWO
PERSPECTIVES ON BUSINESS CONTRIBUTIONS TO CLIMATE CHANGE GOVERNANCE

The purpose of this chapter is to provide an overview of business contributions to climate change governance in areas with limited statehood and use it to develop conceptual tools to investigate corporate climate change strategies in areas of where the state has significant governance deficiencies, with South Africa and Kenya as the case studies. Firstly, the chapter provides a definition of climate change as a complex and cross-cutting environmental and socio-economic global challenge. The second section discusses the concept of limited statehood whilst the third section provides a conceptual discussion on the main modes of non-hierarchical steering by non-state actors with more focus on the private sector. The fourth section focuses on the involvement of the private sector in regulation through corporate political strategies. This is an approach mostly used by business to respond to the shadow of hierarchy cast by the state and other international bodies through various forms climate change rules and regulations. The fifth section explores the characterisation of business governance contributions to climate change through mitigation and adaptation. The main drivers and constraints to private sector climate change governance contributions are discussed in section six. The section focuses on the shadow of hierarchy and functional equivalents to the shadow of hierarchy as the main institutional drivers to business contributions to climate change governance. Section six also discusses organisational drivers which motivate companies to contribute to climate change governance. The conclusion section provides an illustrative diagram which outlines the interactions between the institutional and organisational drivers in influencing business contributions to climate change governance.

2.1 Defining climate change

The most general definition of climate change provided by the UN Framework Convention on climate is "a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to the natural climate variability observed over comparable time periods" (UN, 1992: 4). In this research climate change is specifically used to refer to changes caused by human activity (primarily burning of fossil fuels and land use changes) rather than changes in climate that may have resulted as part of the earth's natural processes.

New observations and related modelling of greenhouse gases (GHG), solar activity, land surface properties and aerosols indicate that global atmospheric concentrations of carbon dioxide, methane and nitrous oxide have increased markedly as a result of human activities since 1750 and now far exceed pre-industrial values (IPCC, 2007). The global increases of carbon dioxide concentration are primarily due to the burning of fossil fuels and land use change, while those of methane and nitrous oxide are primarily due to agriculture (op.cit). The increased concentration of the most important greenhouse gas, carbon dioxide from a pre-industrial value of about 280ppm to 379 ppm3 in 2010 has led to "very high confidence that the average net effect of human activities since 1750 has been one of warming, with a radiative forcing[1] of +1.6" (op.cit: 3). The increased warming (the last twelve years rank among the 12 warmest years) has caused widespread melting of snow and glaciers and rising global average sea level (op.cit). Scientific observations also indicate that these changes have led to long term changes in the climate which include changes in arctic temperatures and ice, widespread changes in precipitation amounts, ocean salinity, wind patterns and aspects of extreme weather such as droughts, heavy precipitation, heat waves and intensity of tropical cyclones (see table 2.1) (op.cit).

[1] *Radiative forcing* is a measure of the influence that a factor has in altering the balance of incoming and outgoing energy in the Earth-atmosphere system and is an index of the importance of the factor as a potential climate change mechanism. Positive forcing tends to warm the surface while negative forcing tends to cool it.

Table 2.1: Recent trends, assessment of human influence on trend and projections for extreme weather events for which there is an observed late 20th century trend (IPCC, 2007)

Phenomenon and direction of trend	Likelihood that trend occurred in late 20th century (typically post 1960	Likelihood of human contribution to observed trend	Likelihood of future trends based on projections for 21st century using SRES scenarios
Warmer and fewer cold days and nights over most land areas	*Very likely*	*Likely*	*Virtually certain*
Warmer and more frequent hot days and nights over most land areas	*Very likely*	*Likely (nights)*	*Virtually certain*
Warm spells/heat waves. Frequency increases over most land areas	*Likely*	*More likely than not*	*Very likely*
Heavy precipitation events. Frequency (or proportion of total rainfall from heavy falls) increases over most areas	*Likely*	*More likely than not*	*Very likely*
Area affected by drought increases	*Likely in many regions since 1970s*	*More likely than not*	*Likely*
Intense tropical cyclone activity increases	*Likely in many regions since 1970s*	*More likely than not*	*Likely*
Increased incidence of extreme high sea level (excludes tsunamis)	*Likely*	*More likely than not*	*Likely*

The projections in table 2.1 are going to going to have deep socio-economic implications, particularly in Africa, a region which is going to be severely affected by climate change. The overall costs and risks of climate change could be equivalent to loosing at least 5% of global gross domestic product (GDP) each year (Stern, 2006). A 2º C increase in the world's temperature levels above pre-industrial levels could result in a permanent reduction of between 4% and 5% in yearly per capita consumption in Africa (World Bank, 2008) This makes climate change a complex and vexing challenge, especially in the sub-Saharan region which is experiencing other socio-economic challenges such as high unemployment, diseases, illiteracy and political instability. The impacts due to both climate change and the socio-economic structures in Africa will most likely affect current agricultural production and consumption as increased populations will put pressure on dwindling agricultural land and yields (Fischer *et al*, 2012). The associated impacts of high temperatures, altered patterns of precipitation and possibly increased frequency of extreme events such as droughts and floods, will probably combine to depress agricultural yields (Fischer *et al*, 2012). These impacts are most likely to spread to other sectors such as energy and transportation (Stern, 2007; O'brien and Leichenko, 2000). It is predicted that developing countries, particularly in Africa will suffer the most because of the predominance of agriculture in their economies, limited capabilities to adapt, their warmer baseline

climates and exposure to extreme events (Fraser *et al*, 2012; Jones and Thornton, 2003; Parry *et al,* 2001) . Therefore, there have been increased calls to build Africa's adaptive capacity to climate change impacts (Quinn *et al*, 2011; Ziervogel *et al*, 2010).

As a result, Africa will need to focus on identifying and implementing developmental trajectories that simultaneously reduce reliance on fossil fuels and improve the capacity of vulnerable communities to respond to direct impact of climate related extreme weather events. (Hamann and Börzel, 2013). However, more effort is required in building vulnerable communities' adaptive capacities because some of them are already experiencing these climate change impacts. However, uncertainties remain with regard to adaptation pathways among policy makers and business (Kolk and Pinkse, 2012).

With the exception of South Africa and Nigeria, most countries in Africa do not emit any recognisable GHG emissions. Nigeria and South Africa ranked 21st and 22nd, respectively in global rankings of GHG emissions in 2005 with Nigeria accounting for 1.03% (454 megatons of CO2e)of global emissions whilst South Africa accounted for 0.98% (433.3 megatons of CO2e) (WRI, 2011). These two countries account for almost 90% of the continent's emissions (Menyah *et al*, 2010)[2]. The high vulnerability of Sub-Saharan countries has been recognized in the Kyoto climate change negotiations. For example, a Green Climate Fund was established as part of the ongoing international climate change negotiations to assist developing countries in adaptation and mitigation practices.

In addition to the predicted severe impacts of climate change on Africa, the continent also has significant governance challenges which will undermine mitigation and adaptation to climate change (Alden and Alves, 2010; Sawyer, 2004). These governance deficiencies are caused by the varying levels of limited statehood in different African countries (Thauer, 2009). This relates to the fact that the governments do not have the capacity to provide common goods as they are not able to develop and implement policies (Börzel and Risse, 2010).

[2] Nigeria produces almost 45% of its GHG emissions in Africa from its gas flaring in the Niger Delta whilst South Africa produces as much from ESKOM's coal based electricity generation and other industrial activities (Sasol's coal to liquids plant in Salsoburg in South Africa is the highest point source of GHG emissions in the world).

2.2. Governance in areas of limited statehood

The term governance has been broadly used to refer to all forms of steering and producing social order including markets states (governments) and networks (see Stocker, 1998; Mayntz, 2002; Rosenau, 1992). In this thesis, governance is used to refer to "institutionalised modes of social structuring to produce and implement collectively binding rules or to provide public goods (in this case, reducing the negative externalities related to increased GHG emissions or adapting to the effects of increased GHG emissions)" (Risse, 2011: 4). Hence, climate change governance pertains to efforts that seek to maintain a stable climate, as an essential public good, through norms, rules and procedures that aim to mitigate GHG emissions and or ensure that social and economic systems are able to adapt to the effects of climate change (Hamann and Börzel, 2013).

As the case with many forms of governance, both state and non-state actors participate in governance through hierarchical and non-hierarchical modes of steering, respectively. Hierarchical modes of steering usually pertain to states and public actors who can use their authority to enforce rules and values, for example, climate change regulations. On the other hand, non-state actors such as the private sector or not-for profit organisations can act as "functional equivalents to the state" in provision of governance through non-hierarchical forms of steering, for example, voluntary implementation of environmental protection standards (see figure 2.1) (Grande and Pauly, 2005; Rosenau, 2000; Heritier and Lehmkuhl, 2006).

In areas of limited statehood where "political institutions are too weak to hierarchically adopt and enforce collectively binding rules" (Börzel and Risse, 2010: 1); non-state actors play a more prominent role as alternatives to the top down, command and control approach of hierarchical steering by states (governments). Limited statehood is not limited to areas where the state actors have failed or are failing to govern. Instead, most of the developing economies contain varying levels of limited statehood as they contain inadequate instruments to implement or enforce decisions due to insufficient political or administrative capacities (Börzel and Risse, 2010). Many underdeveloped and emerging economies can thus be classified as areas of limited statehood because central governments do not have political control of entire territories (for example, Somalia) or have limited capacities to implement or enforce regulations (for example, China, where the state has limited capacities to implement environmental laws (Marquis *et al*, 2011; Thauer, 2009).

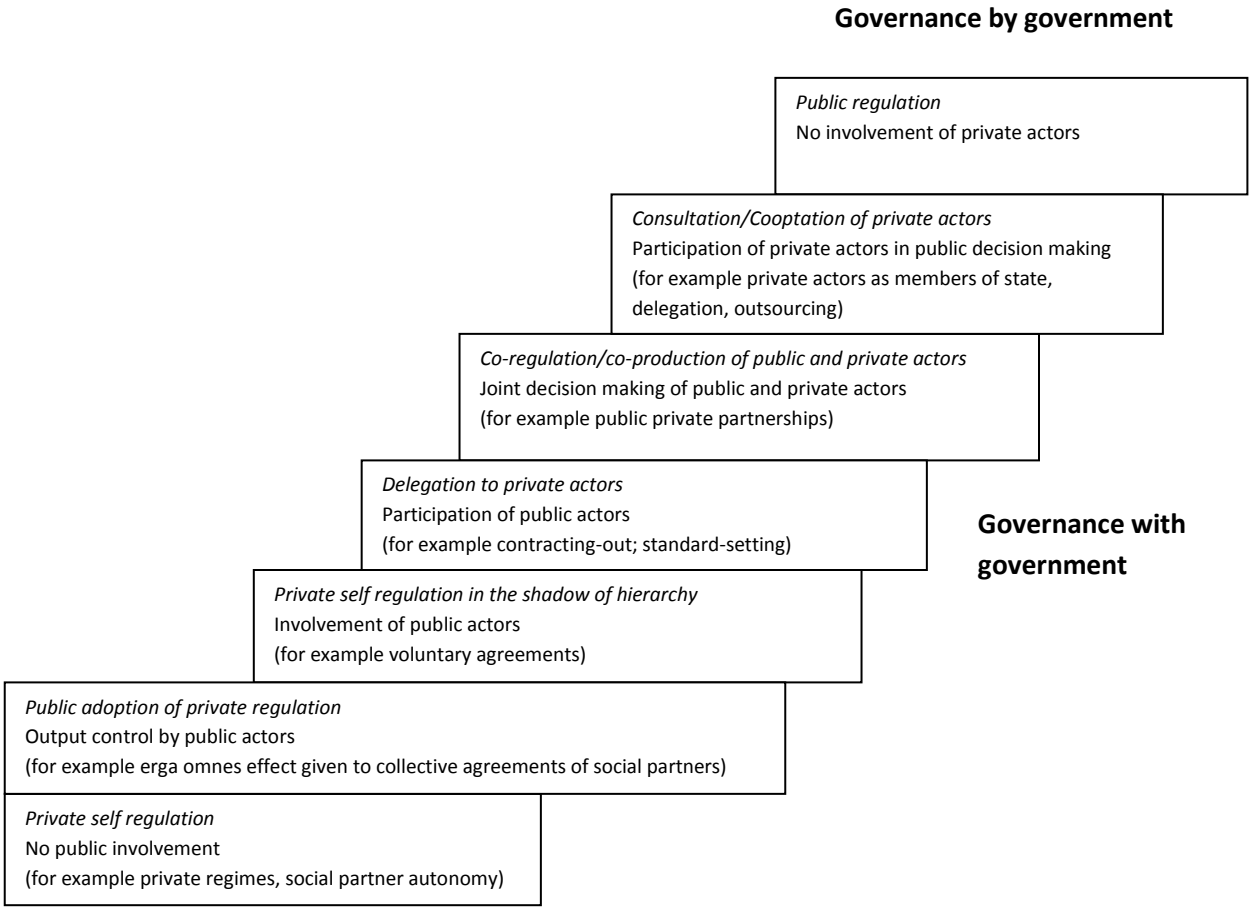
This thesis aims to focus on the role of the private sector as non-state actors in climate change governance in these areas of limited statehood. Much of the current research on corporate responses to climate change focuses on ideal environments in which the state has full legitimate authority to enforce rules (Risse and Lehmkuhl, 2006). However, outside these environments, there are areas of limited statehood in which there is no clear understanding of the role of non-state actors such as the private sector, particularly, with regard to the vexing and complex issue of climate change governance. Since the role of the private sector in governance is still contested (Peters and Pierre; 1998; Bovaird, 2004; Falkner, 2003), more so, in areas of limited statehood, it is vital to clearly understand how and why business contributes to the governance of a valuable global public good such as climate. Literature indicates that companies, particularly, heavy polluting industries tend to escape strict environmental regulations by relocating to areas of limited statehood which have lower environmental standards (Porter, 1999; Wilson, 1996). In response, the countries with higher levels of environmental regulations will lower their environmental standards to attract the foreign direct investment (FDI) and economic growth which comes with heavy polluting industries (Frankel and Rose, 2005). Therefore, the behaviour of business could drive states to a "race to the bottom" to attract FDI, which could result to environmental degradation in these areas (Chan and Ross, 2003; Kaufmann and Segura-Ubiergo, 2001; Lofdahl, 2002).

However, as highlighted above, companies can be drawn to play an important role to compensate for the governance deficiencies in these areas of limited of statehood through non-hierarchical steering (see figure 2.1). Empirical evidence indicates that companies can voluntarily commit to social and environmental standards and adopt self-regulatory regimes or they could enter into partnerships with state actors and enter co-regulating regimes (Börzel and Risse, 2005; Börzel and Thauer, 2013; Vogel and Kagan, 2004; Levey and Newell, 2002; Pinske and Kolk, 2009). Climate change is an important global challenge to carry out research which investigates whether business actually performs such governance functions. It is the aim of this research, to explore the different forms of climate change governance functions that business firms perform in areas of limited statehood and different motivations and constraints to these governance functions.

Whilst large domestic and multinational enterprises (MNEs) are mostly responsible for emitting the highest amounts of GHG emissions, they also have the resources and capabilities to mitigate and adapt to climate change. However, small and medium enterprises (SMEs) have the potential to play an important role because their ability in creative destruction which usually results in innovation (Rothwell and Zegveld, 1982). Whilst large companies are bogged down in reducing their GHG emissions, SMEs could utilise their

potential in innovation to develop long term adaptive and resilient mechanisms. Furthermore, due to their small size, SMEs have the potential to quickly shift their organisational culture and embed in the ecological systems which enables them to learn and respond effectively to the impacts of climate change (Whiteman and Cooper, 2011). Hence, there is value in exploring the different contributions of both large and small firms which operate in different sectors which face slightly varying institutional pressures.

Figure 2.1: An outline of non-hierarchical governance options (adopted from Börzel and Risse, 2010)



Literature has revealed that private sector self-regulation and co-regulation with the public sector could help the state in the effective and legitimate provision of public goods, for example the environment or public health (Börzel, 2012; Leibfried and Zurin, 2005; Rossenau and Czempiel, 1992). Whilst there has been an inclination for increased governance without the state (Börzel and Risse, 2010), the state still has to play an important role in the provision of governance services. On one hand, the state still has to

possess the necessary capabilities in terms of resources and autonomy to cast a credible shadow of hierarchy to incentivise no-state actors to cooperate and allay fears of being penalised (Börzel, 2012).On the other hand, these state capacities must not be too strong to provide an incentive for state actors to partner with non-state actors. This means that for governance without the state to work the shadow of hierarchy should be present (Börzel, 2007; Börzel, 2010). The shadow of hierarchy is discussed in further detail in the sections below in relation to drivers to climate change governance.

Whilst in certain governance areas such as public health and provision of sanitation might be declining, several authors argue that the effective provision of governance services still require the state to provide a shadow of hierarchy (Scharpf, 1997; Rhodes, 1996; Jessop, 1998). In order to fulfil this role as a conduit for governance, the state requires statehood which is "the capacity to make and enforce collectively binding rules, with the monopoly on force as the ultimate ratio of its coercive power" (Börzel, 2012: 5). If governance without a state still requires statehood, then how do areas which have limited statehood provide governance services? In most cases non-state actors end up playing a larger role in governance, for example, NGOs providing sanitation and security in war torn countries such as Somalia. It is the aim of this research to explore how and why the private sector as non-state actors in areas of limited statehood contributes to climate change governance. It is apparent that the increased limited statehood in an area, the greater the need for governance from non-state actors to compensate for the state's weaknesses. In this case, Africa is one of the regions predicted to be heavily impacted by the effects of climate change, which entails that they have to focus on adaptation than mitigation. However, evidence in the literature indicates that states in Sub-Saharan countries lack the capacity to develop climate change adaptive and/or resilience strategies. Therefore, non-state actors, particularly, the private sector are expected to play a much greater role in climate change governance because they have the resources and capabilities to develop innovative strategies (Pinkse and Kolk, 2009).

In addition to the shadow of hierarchy, there are other ways to induce non-state actors to provide governance services that do not necessarily rely on the absolute presence of statehood. The shadow of anarchy, which could be in the form of pressure from local communities or competitive disadvantages, for example, could induce non-state actors such as the private sector to participate in governance. Nonetheless, even markets require some form of shadow of hierarchy to function, for example, the carbon markets still require state institutions to provide companies the necessary platform and instruments to trade. This research explores how the shadow of anarchy is relevant in driving or constraining corporate responses to climate change governance in areas of limited statehood. This concept of shadow of anarchy

will be further discussed in section 2.6.1.2 in relation to drivers of climate change governance in areas of limited statehood.

Section 2.4 and 2.5 below will further explore how business contributes to climate change governance and the main drivers to these governance functions, some of which might be enhanced and complemented by organisational factors. This is because organisations are not just passive respondents to institutions, but they have other interests such as efficiency and competitiveness which could be driven by internal organisational drivers (Perrow, 1985). The focus on how internal organisational factors complement or enhance governance factors in explaining the drivers to business responses to environmental issues is very valuable, particularly, to political science because much of that literature has focused on external drivers to explain environmental firm policies.

2.3. Business contributions to climate change governance

The lack of progress within the international arena, particularly, the failure to agree on a clear path to combating climate change within the Kyoto Protocol has been framed as a governance failure (Haya, 2012; Helm, 2012). In addition to this, the impacts of climate change which are mostly attributed to business have also been attributed to as a market failure:

> "The problem of climate change involves a fundamental failure of markets: those who damage others by emitting greenhouse gases generally do not pay..... Climate change is a result of the greatest market failure the world has ever seen. The evidence on the seriousness of the risks from inaction or delayed action is now overwhelming. We risk damages on a scale larger that the two world wars of the last century" (Stern, 2007)[3]

As a result of these failures, it is vital that binding norms and rules are established as part of a broader international climate change governance framework. Such a binding framework would be valuable in particular to areas of limited statehood which already face numerous governance deficiencies and are most likely to suffer from the severe impacts of climate change. Hence, there is value in attempting to understand how and why companies respond to such rules and regulations in areas where they exists and sometimes contribute to the development of such rules and regulations through non-hierarchical steering.

[3] Quoted from The Guardian newspaper, 27 November, 2007: http://www.theguardian.com/environment/2007/nov/29/climatechange.carbonemissions

At the same time, companies are also expected to utilise their organisational capabilities to develop innovative products and services which contribute towards mitigating and adapting to climate change. These internal firm contributions are normally driven by various competitive drivers, ethical responsibilities and societal pressures which influence companies' reputation (Bansal and Roth, 2000). The sections below discusses how companies can contribute to the development and implementation of climate change rules either through self- regulation and/ or collective self-regulation in partnership with public and other non-state actors.

2.3.1 Private-self regulation

Literature has highlighted some instances that contradict the "race to the bottom" theory where business firms impose stricter self regulatory standards and even pressing governments to issue stricter public regulations (Börzel *et al*, 2011; Bhagwati and Hudec, 1996; Lofdahl, 2002). According to Ruggie (2004: 13) companies can also be "drawn into playing public roles to compensate for governance gaps and governance failures at global and national level". Self regulation is not a new phenomena as there are numerous examples where it has been applied as an industrial regulatory tool (Teubner *et al*, 1994; Bardach and Kagan, 1982). However, in the environmental arena, it is only in recent times that self-regulation has enjoyed serious consideration as a viable alternative to traditional command and control regulation (Kolk and Pinkse, 2005; Elzen *et al*, 2004). Therefore, it is the aim of this thesis to understand the extent to which companies in areas of limited statehood self-regulate themselves as part of their contribution to climate change governance.

In relation to climate change governance, this form of voluntary self regulation relate to activities which occur within the firm, particularly those that are intentional and have benefits to climate change mitigation and adaptation (Hamman and Börzel, 2013). The issue of intentionality is very important in climate change governance, for example, if companies seek to participate in the carbon markets to reduce their GHG emissions through the Kyoto Protocol's Clean Development Mechanism (CDM) they have to show the "additionality" of the project (Greiner, 2003; Yong, 2009; Schneider, 2009). This is a crucial element of credibility of climate change governance because the CDM project has to ensure that GHG emissions after implementation of a CDM project activity are lower than those that would have occurred in the alternative scenario to the implementation of the CDM project activity (Yong, 2009; Michaelowa, 2005). However, for

other mitigation efforts such as energy efficiency which could be driven by cost savings (Porter and van der Linde, 1995), the intentionality of the efforts may be less obvious (Hamman and Börzel, 2013).

In addition to individual voluntary commitments, some companies and industries go further to the extent of engaging in a "race to the top" and voluntarily subject themselves to costly regulations and demand governments to issue stricter regulations (Heritier *et al,* 2009; Buthe, 2010; Thauer, 2013). This contradicts the expected business behaviour which encourages a "race to the bottom" as weak states lower their environmental regulations to attract more FDI. Empirical research in South Africa within the automotive industry by Börzel *et al*, (2011) indicates that companies engage in this form of governance for the following reasons:

> "(i) if the quality of the brand name product they market benefits from observing strict regulatory provisions; (ii) if they have an economic advantage by seeing strict regulatory conditions imposed on foreign competitors; (iii) if they are under pressure from non-governmental organisations' campaigns that may damage their reputation; finally, (v) if they are under regulatory pressure from their country of origin" (p.2).

Furthermore, firms can adopt a role as an inspector towards their suppliers, deploying supervision activities over their supplier's products and production processes in order to ensure that they comply with environmental and product regulatory standards (Heritier *et al*, 2009). These are responsibilities which are mostly performed by public actors which have a legislative mandate, for example, Safety, Health and Environmental inspectors or Environmental Impact Assessment (EIA) officers in provincial governments. Therefore, there is value in attempting to understand how and why companies would adopt the role of inspector, particularly, in areas which have limited governance levels. Williamson (2000; 2002) argues that business firms always seeks to maximise their operations in a rational way, therefore, in order to "reduce contractual hazards and ensure that none of the transaction partners fall victim to a hold up in the implementation of a contract, firms devise private ordering or governance rules" (2002:13). These governance rules guide the partners' transactions in the event that uncertainties arise during the implementation of the contract. In this context, this form of contract could be evident in the retail industry were a retailer agrees with its supply chain partners to reduce a certain amount of GHG emissions in a product life cycle with each partner having their own responsibilities. The retailer as an inspector will have the responsibility to govern the supply chain to ensure they meet their set target. Heritier *et al* (2009) argue that the higher the higher the asset specificity (substantial investments) of the relationship, the more a firm acts as an inspector (asset specificity is discussed in greater detail in section 2.7). Furthermore,

if there is pressure from consumers for sustainable products and services which have minimal impact to the climate, the retailer is most likely to behave as an inspector towards its suppliers. The political argument claims that the more a firm is under pressure from regulations from its country of origin, the more it controls and sanctions a supplier firm's processes in the country of operation (Heritier *et al*, 2009).

2.3.2 Collective self-regulation

Business firms also participate in self-regulation through partnerships with the public sector and at times with other non-state actors (see figure 2.1). This form of governance resembles a cooperative state, "where state and non-state actors participate in mixed/public policy networks" (Mayntz, 2002: 21). This collective non-hierarchical mode of governance involves developing and implementing of norms and rules through partnerships between state and non-state actors. The Cape Town Partnership in South Africa --- a cross-sector collaboration initiative between the City of Cape Town municipality, the private sector and civic organizations to tackle social and environmental challenges illustrates this mode of non-hierarchical steering (Hamman and April, 2013). According to Börzel and Risse (2005) collective private regulation can be divided into four categories: cooptation; delegation; co-regulation and self regulation in the shadow of hierarchy (table 2.2). Furthermore, the authors indicate that these partnership initiatives can also be distinguished according to their purpose and function: rule and standard setting; rule implementation and service provision.

Cooptation is a process in which an actor with regulative powers, mostly state actors incorporates non-state actors in the provision of governance services to provide knowledge, expertise, moral authority and legitimacy. For example, the private sector has been involved in international climate change negotiation regimes. On many occasions, governments and international organisations increasingly incorporate the private sector and other non-state actors as official members of their delegations in the Kyoto climate change negotiations to discuss new rules and how to implement those rules in mitigating and adapting to the impacts of climate change (Kulovesi, 2007; Kolk and Pinkse, 2007). As a result, the Kyoto Protocol has received some levels of legitimacy and success in responding to a complex global issue due to the participation of business and other non-state actors. Börzel and Risse (2005) indicate that the cooptation of the private actors has extended beyond international issues into international economy and security. Multinational corporations have gained formal and legitimate access to international negotiations and

organisations such as the International Monetary Fund (IMF) and the World Trade Organisation (WTO) to the extent that they have formal observer status which include the right to make statements (for example, at the Otawa negotiations to ban anti-personnel landmines) (Mekata, 2000). Whilst cooptation gives non-state actors access to information and influence the direction of policy; it also allows state actors and other international organisations to control non-state actors and compel them to be responsive to these social and environmental issues (Dickson, 2000; Backstrand, 2008; Pattberg and Stripple; 2008)

Table 2.2: The different forms of collective self regulative initiatives based on type and purpose (adapted from Börzel and Risse, 2005).

Purpose / **Type**	*Rule setting*	*Rule Implementation*	*Service Provision*
Cooptation	*Climate change negotiations*	*Governments through the Kyoto Protocol System*	*UN Development Agencies (e.g. UNEP)*
Delegation	*Environmental standardization (e.g. ISO14001)*	*Executive Outcomes*	*International associations or groupings e.g. WBCSD*
Co-regulation	*Energy Efficiency Accord*	*Kyoto Protocol Market Based Mechanisms e.g. Clean Development Mechanisms (CDM).*	*Business Associations*
Self-regulation in the Shadow of Hierarchy	*Montreal Protocol on Substance that Deplete the Ozone Layer*	*UN Global Compact*	*Rating Agencies*

In cases where the state or regulative bodies are unable to co-opt non-state actors, the state will delegate certain governance functions to the non-state actors. Delegation of the governance functions vary from

instances where the private actors are held accountable by the state, for example, “contracting out“ the standardization of vehicle emissions to instances where the government tolerates, supports and acknowledges the outcome of a self regulation initiative taken by the private actors (Börzel and Risse, 2005; Heritier and Eckert, 2008, 2009). An example of this implicit form of delegation will be voluntary commitment by the private sector to a set of environmental principles such as the Equator principles (a framework by which banks manage environmental and social issue in project financing). The transport exhausts emission standards which are developed by the International Organisation for Standardisation (ISO) also illustrate a form of delegation when a non-state actor active in standardization is given responsibility to develop standards to govern a particular issue, in this case vehicle emissions (Heritier, 2003; Lutsey and Sperling, 2008). The delegation of rule setting and implementation responsibilities to non-state actors tends to improve the efficiency and acceptance of the policy or standards by the private sector because the regulations are developed by their peers, hence, high levels of legitimacy (Green and Colgan, 2012). In humanitarian situations international organisations such as the United Nations are increasingly contracting private actors and other non-state actors in the provision of aid and health services because these non-state actors have more resources and capabilities to provide these services. For example, in Afghanistan most of the humanitarian aid and security is provided by non-state actors (Schwatz, 2010; Schwartz and Swain, 2011).

However, due to the limited capacity of the state to cast an effective shadow of hierarchy in areas of limited statehood, it is difficult for the state to monitor the non-state actors if they are complying with the delegated contract and performing as agreed (Börzel and RIsse, 2005). As a result, the state provides extra incentives and disincentives to discourage non-compliance to the delegated private actors to ensure that they maximise their efforts in setting rules and implementing them (Karagiannies, 2006). For example, the state might allow the private sector to implement emission reduction standards and meet the set targets over a longer period of time than might be expected.

In addition to the cooptation and delegation, business firms have also participated in collaborative regulatory structures in which they share different levels of responsibility in rule setting and implementation with the state and, at times with other non-state actors (Hönke , *et al*, 2008). These co-regulatory mechanisms are usually created by civil society and business organisations and at times involve the participation of intergovernmental organisations (Cutler, 1999; Braithwaite and Dahos, 2000). These efforts have also led to the development of corporate participation in global public policy networks (GPPN) (Detomasi, 2007), for example, the Global Reporting Initiative (GRI) which connects business, civil society,

governments, industry associations, the UNDP and the media to develop uniform reporting standards to assess the environmental and social impact of organisational activities (Brown, 2011). In comparison to cooptation, co-regulation raises the status of non-state actors to equal and legitimate partners (Börzel and Risse, 2005).

Finally, in areas with improved levels of statehood which enables the state to develop and enforce regulations, companies have the option to self-regulate in the presence of a shadow of hierarchy (Scherer and Palazzo, 2011; Heritier and Eckert, 2007). For example, in the European Union, industry engages in self-regulation through "Voluntary Environmental Agreements" (Vas) which allows them to use their superior expertise in shaping the measures. This form of self-regulation allow for immediate implementation by the private sector and can be changed easily if need arises (Heritier and Eckert, 2007). However, to ensure that the private sector implements these rules, the state cast its shadow of hierarchy. In some cases, public campaigns by NGOs attacking businesses' climate change and environmental record might impact upon an ensuing business action, for example, Greenpeace's campaigns against Shell's Arctic drilling activities (Tsoukas, 1999; Betsill and Corell, 2001). These campaigns very often negatively affect companies' reputations resulting in the willingness of industry to engage in self-regulation. NGO campaigns may also trigger a legislative threat from public actors which might incentivise industry to self-regulate (Heritier and Ecker, 2007). This phenomenon is not exclusive to areas with higher levels of statehood, as illustrated in NGO campaigns against Shell's water pollution in Nigeria. Therefore, state actors in areas of limited statehood might also threaten the private sector with legislation prompting them to self-regulate as they pre-empt the consequences of regulations.

Collective private regulation includes public-private partnerships (PPPs) which covers a variety of potential cooperative arrangements which have been highlighted above (Börzel and Risse, 2005). However, this definition often excludes certain forms of public-private interaction which focus on corporate political activities. These political activities are aimed at influencing and shaping policy outcomes through activities such as lobbying and advocacy. Private actors who are not active participants in governance arrangements or negotiating systems may engage in different forms self-coordination through the markets to influence governance systems. In the US, between 1989 and 2002, the Global Climate Coalition, a group mainly of US businesses used aggressive lobbying and advocacy to oppose actions to reduce GHG emissions (Levy and Egan, 2003; Levy and Kolk, 2002). On the other hand, in recent years, a group of leading global investment private actors, the Global Investor Coalition on Climate Change have formed a coalition to conduct shared initiatives on climate change policy (Nelson and Pierpont, 2013). To further understanding these political

strategies, this study aims to explore the different activities that businesses are engaging in to influence climate change policy.

2.4 Private sector involvement in public regulation

When climate change became an important policy issue for companies, mainly in developed economies in the early 1990s following the ratification of the Kyoto Protocol, corporate efforts to influence the direction and shape of the debate started taking place (Kolk, 2001; Levy, 1997; Grubb *et al*, 1999). Initially, companies, mostly large multinationals in the oil and energy industries opposed any regulations regarding climate change (Newell and Peterson, 1998). However, the corporate political strategies have evolved from being antagonistic to be more cooperative in many cases (Kolk, 2001; Levy and Kolk, 2002; Levy and Rothenberg, 2002).Nevertheless, the absence of a concrete international agreement after the expiry of the Kyoto Protocol in 2012 means that corporate political activities on climate change can be expected to continue.

Whilst climate change is still a global issue governed by international policy regimes (Kyoto Protocol), variations between regions and countries in the policy design and implementation will also have serious ramifications for companies, particularly, multinationals (Kolk and Pinkse, 2007; Hamilton *et al*, 2003). This means multinationals' corporate political strategies will tend to be less global and more "multi-domestic" as they attempt to respond to how different countries they have operations in are designing their climate change policies (Baron, 1997). This challenge was most notable in the case of non-European (EU) firms that were confronted with the EU emissions trading scheme (Pinkse, 2006).

According to Hillman and Hitt (1999), companies do not formulate political strategies in response to a specific salient issue. The authors argue that companies usually adopt two approaches: (a) transactional approach where they wait for the development of an important public policy issue before building a strategy to affect this issue or (b) a relational approach where they attempt to build relationships across issues and over time and so that when a public issue arises that affects their operations, the contacts and resources needed to influence this policy are already in place. With regard to these two strategies, companies target specific actors to influence policy: the state government and other interest groups such as business associations, NGOs, media and research groups.

The main traditional types of political strategies which companies adopt to influence policy as argued by Hillman and Hitt (1999) are: information, financial incentive and constituent building strategies (figure 2.4). Companies which adopt the information strategy provide policymakers with specific information about their view on public policy using tactics such as lobbying or using think tanks to produce research outputs which support their views (Rothenberg and Levy, 2011). Notable examples are the American Tradition Institute and Heartland Institute which are mostly funded by the Koch brothers and the oil industry in the US to oppose any climate change policies. It is important to note that companies might lobby for stricter climate change policies to exclude foreign competitors with low regulatory standards (Börzel *et al*, 2010). If successful such lobbying could improve the market position of the forerunner firm (Porter, 1980). A financial incentive strategy is also aimed at policy makers, but it uses financial inducements. A common tactic is making financial contributions to a political party or policymaker. In contrast, the constituency building strategy uses tactics such as newspaper advertisements or press conferences to persuade voters and the public to support the firm's cause, with the aim that these voters will express their opinion to policymakers (Hillman and Hitt, 1999)

Figure 2.4: A taxonomy of corporate political strategies (from Hillman and Hitt, 1999)

Strategy	Tactics	Characteristics
Information strategy	-Lobbying -Commissioning research projects -Testifying as expert witness -Supplying position papers or technical reports	Targets political decision makers by providing information
Finance incentive strategy	-Contributions to politicians or party -Paid travel, etc -Personal service (hiring people with - political experience or having affirm member run for office)	Targets political decision makers by providing financial incentives
Constituent building strategy	-Grassroots mobilization of employees, suppliers, customers etc -Advocacy advertising -Public relations -Press conferences -Political education programs	Targets political decision makers indirectly through constituent support

However, according to Bonardi and Keim (2005), corporate political strategies for widely salient issues such as climate change differ from activities for narrowly salient issues which mostly apply to Hillman and Hitt's

typology. They argue that these strategies are likely to be less effective on an important issue such as climate change because salient issues are deemed important by the public and applying strategies such as the constituency building strategy, which tries to influence the public itself, can bring about a negative reputation effect (Kolk and Pinkse, 2007). As an alternative strategy, Bonardi and Keim (2005) suggest that in the early stages of the issue life cycle it will be more effective to change opinion of experts and the media who have an important role in the development of policies of salient issues. In the later stages of the issue life cycle companies self-regulate because it is more timely than trying to influence experts (Kolk and Pinkse, 2007).

2.5. Characterisation of companies' contributions to climate change governance

Much of the scholarly literature has placed more focus on the role of business in climate change mitigation rather than adaptation. This is partly because most mitigation efforts require less time and effort in terms of commitment of resources and do not require significant adjustments or the transformation of the organisational system (Moser and Ekstrom, 2010). Furthermore, there has been a lack of a "common definition" of what adaptation entails for business (Pinkse and Kolk, 2012).

Mitigation and adaptation are also markedly different because their impacts refer to "different temporal and spatial scales" (Klein *et al*, 2005: 14). The effects of mitigation are usually short term, but it operates on a global scale (Pinske and Kolk, 2012). For example, a lot of companies from industrialised and to a lesser extent developing countries are participating in the Clean Development Mechanisms (CDM) which has a global reach but has short term impacts (Winkler *et al*, 2005). On the other hand, adaptation operates on a local scale and relates to activities such as land use, agriculture, water management, and desertification and ecosystem integration. The local nature of adaptation also makes it difficult for companies to implement because it often involves a lot of organisational learning and engagement with vulnerable and affected communities (Tompkins and Edgar, 2004; Wilbanks and Kates, 2010).

2.5.1 Business contribution to climate change mitigation

Climate change mitigation encompasses "human intervention to reduce the sources or enhance the sinks of greenhouse gases" (UNFCC, 1997:4). Kolk and Pinkse (2005) developed a typology of companies' strategic responses to climate change with a strong focus on mitigation. They argue that companies' contributions focus on two overarching strategic aims: innovation and compensation. Innovation involves the development of technologies or services to reduce emissions whilst compensation leaves a company's own technological competences unaltered as the company uses emission reduction technologies developed by other companies. Companies that innovate for the purpose of climate change mitigation develop company specific capabilities or competences which could be difficult to create, substitute or imitate often giving the company a competitive advantage (Grant, 1991; Prahalad and Hamel, 1990). Compensation entails that companies do not primarily aim to reduce greenhouse emissions in their own operations through process or product innovations, but rather focus on transferring emissions to other jurisdictions or entities, or on purchasing carbon credits or engaging in offset projects. In addition to this, companies can identify opportunities from their innovation and compensation activities, for example, product innovation to assist them to adapt to climate change.

When these two overarching strategic aims are combined with different levels of organizational activities and interactions, a matrix is developed to outline the strategic options in contributing to climate change governance (Kolk and Pinkse, 2005). In the resulting typology (see Figure 2.2) six strategic options emerge that could be part of a comprehensive strategy for climate change in which companies combine several options. The vertical axis distinguishes the three different levels of organizational activities and interactions: within the individual company (*internal)*; within the value chain (*vertical*); and with other private or public actors (*horizontal).* The horizontal axis consists of the two main drivers (innovation and compensation) of corporate responses to climate change.

Figure 2.2: Typology of strategic options for corporate responses to climate change (with a focus on mitigation), according to Kolk and Pinkse (2005)

		Main Aim	
		Innovation	Compensation
Organizational activities & interactions	Internal (Company)	Process Improvement	GHG accounting and internal transfers
	Vertical (supply chain)	Product Development	Supply-Chain Measures
	Horizontal (beyond the supply chain)	New Product and Market Combinations	Acquisition of Emission Credits

Innovation processes within companies usually focus on process improvement to not only reduce emissions but also reduce production costs (Porter and van der Linde, 1995). These efforts mostly contribute to companies' private self regulatory governance contributions by implementing standards and guidelines agreed collectively either at the global and national level. Low GHG emitting sectors such as telecommunications and banking which have limited opportunities to contribute to mitigation focus on implementing management programmes to conserve energy for example, systems that control heating and reduce electricity usage. This is often combined with programmes to increase staff awareness of energy conservation and restrictions on business travel (Kolk and Pinkse, 2004). However, energy intensive sectors such as mining, heavy industrials and oil and gas which have more pressure to reduce their GHG emissions mainly focus on improving production processes by adopting standards on energy efficient technologies (op.cit; Weinhofer and Hoffman, 2010). In some countries (e.g. South Africa), companies in the energy intensive sectors participate in co-regulation by signing up to voluntary energy efficiency agreements with governments which set targets on energy reductions (Tyler, 2009). Furthermore, companies which have more resources will have more options to acquire advanced technologies to develop renewable energy.

Innovation processes can also focus on development of new products and services, mostly in partnership with the supply chain providing inputs as customers adopt new practices (for example, Toyota's Prius hybrid car). Hence, these efforts mostly involve collective self-regulation in partnership with the supply

chain in to develop the technologies. Product development is not only prevalent in technology intensive industries which means a sector such as insurance can provide services such as index insurance for farmers to respond to climate change risks (Barnett and Mahul, 2007). Finally, companies can collaborate beyond the supply chain to form strategic alliances with other companies to develop new products and market combinations. A case in point is BP's partnership with Daimler Chrysler in piloting fuel cell vehicles as part of the US's Department of Energy's fuel cell vehicle and infrastructure validation program. These strategic alliances allow for inter-firm knowledge transfers and assist companies in accessing new markets (Mowery *et al*, 1996; Simonin, 1999).

With regard to compensatory activities companies focus on measuring their GHG emissions as a widely expected first step in contributing to mitigation. This is a predominantly private self-regulatory contribution as companies use their internal resources to implement globally set standards on reporting. Whilst not necessarily a compensatory activity, companies usually set their emission targets after accounting for their emissions. GHG accounting involves "measuring exclusive total amount of carbon dioxide emissions that are directly and indirectly caused by an activity or is accumulated over the life of a product" (Widemann and Mix, 2007: 4). This process encompasses measuring the scope 1 (direct emissions from owned or controlled sources), 2 (indirect emissions from generation of purchased energy) and 3 (all indirect emissions not included in scope 2 that occur in the value chain of the reporting company, including both upstream and downstream emissions) (WBCSD and WRI, 2004). After the GHG accounting process, companies will set targets for reducing GHG emissions. A third aspect of a company's internal compensation strategy is transfer of GHG intensive activities to other parts of the company, mostly those which operate in jurisdictions with less stringent climate change regulations and this may also involve the use of carbon markets (Kolk and Pinkse, 2009; Hoffman, 2007).

Companies may also engage the collective self-regulatory efforts within the supply chain to reduce their GHG emissions. Sectors such as retail and food and drink manufacturing, which engage with their suppliers regularly, opt for this strategy as they get to reduce emissions right through the supply chain. Companies in these sectors also adopt the role of "inspector" by monitoring their suppliers to ensure they meet certain standards and acquire certification such as the ISO 14001 and ISO 14067. Companies such as Unilever have benefited from participating in the CDP Supply Chain which allows them to share information and solutions with other companies with regard to climate change risks and opportunities within the supply chain. As part their supply chain compensatory strategy, some companies also outsource their GHG intensive activities, such as transportation (Andrews, 2009).

Finally, compensatory collective self-regulatory initiatives may extend beyond the supply chain to include carbon trading. The Kyoto Protocol resulted in two project based mechanisms: the Clean Development Mechanisms (CDM) and Joint Implementation (JI)[4]. These mechanisms allow companies to achieve reductions of GHG emissions by trading emission credits in partnership with other companies or developing country governments (Kolk and Pinkse, 2004). Some companies prefer to participate in the voluntary carbon markets which allow business to invest in climate related projects to offset the carbon impact of their organisation because these voluntary markets don't have the bureaucracy and transaction costs associated with CDM and JI. For example, compared to the Kyoto regulatory markets, the voluntary markets are currently the only source of carbon finance for avoided deforestation (Hamilton *et al*, 2007; Bayon *et al*, 2012). However, the voluntary carbon markets still lack credibility because of a lack of accountability (Dhanda and Hartman, 2011; Dhanda and Murphy, 2011).

2.5.2 Business contribution to climate change adaptation

As highlighted above, there seems to be no common definition of adaptation (Kolk and Pinkse, 2012). It is difficult to define adaptation because it has a long and multidisciplinary history and meanings of the term differ by field (Ekstrom *et al*, 2010). According to Moser and Ekstrom (2010) climate change adaptation is more aligned to the social-ecological system:

> "Adaptation involves changes in social-ecological systems in response to actual and expected impacts of climate change in the context of interacting non-climate changes. Adaptation strategies and actions can range from short-term coping to longer term, deeper transformations, aim to meet more than climate change goals alone, and may not succeed in moderating harm or exploiting beneficial opportunities" (p.1)

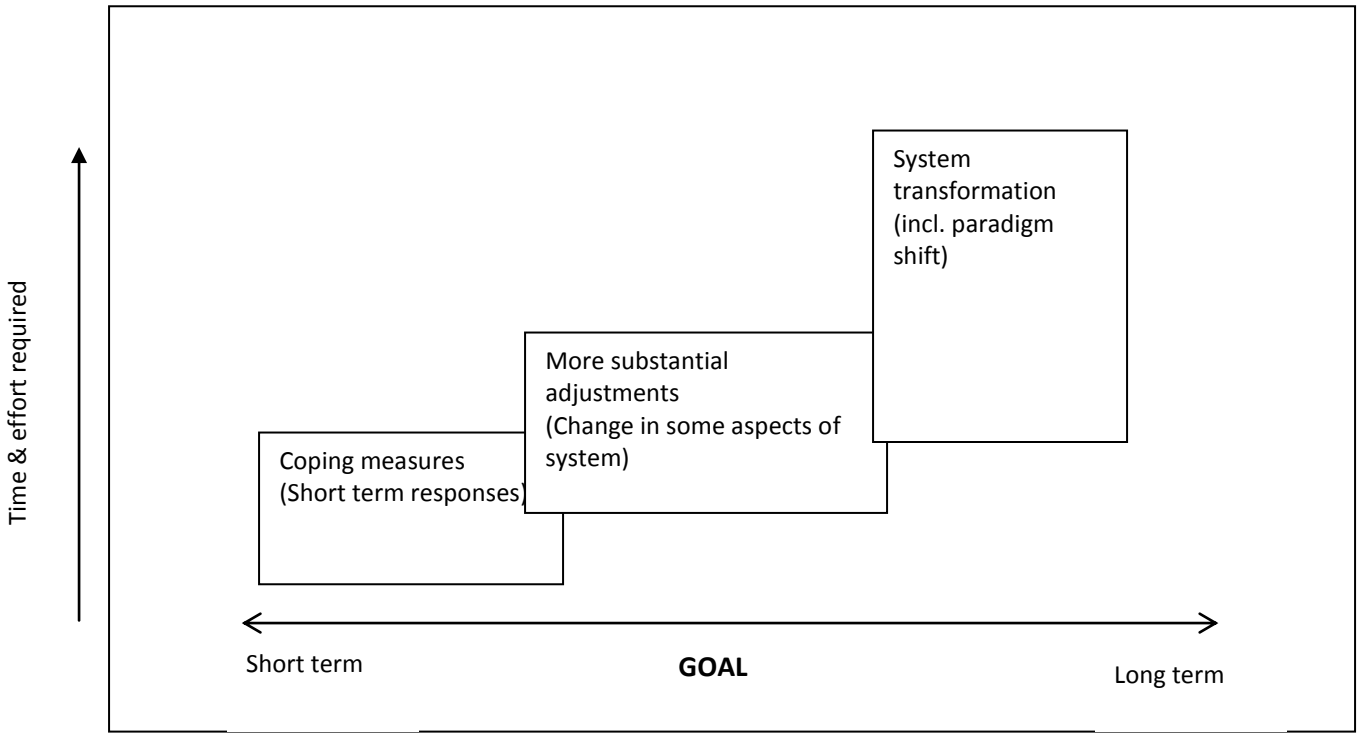
Berkhout *et al* (2006) argue that adapting to climate change is somewhat similar to the process of organisational learning. This process of organisational learning challenges and adjusts organisational "routines" – "a repetitive, recognisable pattern of interdependent actions involving multiple actors" (Fieldman and Pentland, 2003: 96; Nelson and Winter, 1982). Therefore, changes in organisational routines will result in changes in organisational behaviour—"a process often referred to as adaptation" (Berkhout *et*

[4] The Kyoto Protocol has two project based mechanisms that allow Annex 1 countries (mostly developed countries) to meet their GHG emissions reduction commitments by acquiring emission reduction credits. The credits are acquired by an Annex 1 country financing projects that reduce emissions in non-Annex 1 countries (mostly developing countries) and other Annex 1 countries or by purchasing credits from Annex 1 countries with excess credits. Through the JI, Annex 1 countries can invest in emission reduction projects in any other Annex 1 country as an alternative to reducing emissions domestically. On the other hand, through the CDM, countries can meet their domestic reduction commitments by purchasing credits in projects in non-Annex 1 countries

al, 2006: 137). Altering these routines will require certain resources and capabilities which will enable the company to change and adapt its operational activities (Collis, 1994; Zollo and Winter, 2002). However, before an organisation can adapt, in this case to climate change, they should be able to understand and interpret the signals from their experiences of changing climatic conditions (for example, water shortages). Research has indicated that due to various factors such as scarcity of evidence, blindness to evidence and uncertainty in assessing the relevance of the changing climatic conditions companies might fail to significantly interpret evidence from their experiences (Levitt and March, 1988).

Due to the fact that various sectors and companies are affected by climate change differently they are bound to opt for varying adaptation strategies. Furthermore, many sectors and companies have different adaptive capacities which are necessary pre-conditions for an organisation to be able to adapt (Nelson *et* al, 2007). Moser and Ekstrom (2010) argued that organisations have three main adaptation options: coping strategies; systemic adjustments and deep systemic transformations (figure 2.3). It is apparent that each type of adaptation strategy will require a different set of resources and capabilities, with system transformation likely to demand greater levels of learning and flexibility. Companies which adopt the coping strategies usually have reactive and short-term initiatives. These organisations use a "wait and see" approach which is "a strategy of deferral, based on scepticism or uncertainty about the possible impacts of climate change and about the benefits of adaptation" Berkhout *et al*, 2006: 151).

Figure 2.3: Scope and scale of climate change adaptation (according to Moser and Ekstrom, 2010)



System adjustments involves a process which aims to "reduce risks and improve the level of adaptedness" of an organisational system, and this may include activities such as improving agricultural systems, redesigning the built environment or implementing new management decisions (Nelson *et al*, 2007: 400). For example, due to water shortages some companies will enter into partnerships and form water management groups to implement water demand management strategies (Kranz, forthcoming). Even though some of these system adjustments are long term they are reactive in nature (Nelson *et al*, 2007).

Nelson *et al* (2007) define transformation as "a fundamental alteration of the nature of a system once the current ecological or economic conditions become untenable or undesirable" (p. 397). Transformational change results from crossing ecological or social thresholds (Nelson *et* al, 2007). In the context of a business organisation this could mean that due to the impacts of climate change, an ecosystem can no longer support certain activities such as farming owing to shortages of water or degradation of soils. Through an adaptive learning and planning process the agricultural company (for example, a wine estate) might have to transform its organisational system to shift to eco-tourism. Literature from social ecology indicates that when the transformation is associated with the "effects of inadvertently crossing thresholds". It will most likely result in an undesirable system with low productivity (Adger, 2006; Adger *et al*, 2007; Janssen and Ostrom, 2006; Nelson *et al*, 2007).

2.6. Drivers and constraints to climate change governance

2.6.1. Institutional drivers

Numerous organisational studies have addressed the key question of why companies are responsive or non-responsive to climate change or environmental issues (Bansal and Roth, 2000; Okereke, 2007; Hoffman, 1999; Pinkse and Kolk, 2009; Porter and van der Linde, 1995). A relatively large section of this literature argues that the institutional context of a company influences its environmental strategies. The core insight of institutional theory is that organisations are embedded within the institutional fields with important cultural, normative and regulatory dimensions (DiMaggio and Powell, 1983).

From an institutional perspective, despite considerable attention given to the potential economic opportunities for some companies in responding to climate change, the normative, cultural-cognitive and regulatory elements also play an important role (see table 2.3) (Jones and Levy, 2007; Rothernberg and Levy, 2012). The normative pressures, which usually result in homogeneity, come from similar attitudes and approaches of professional groups and associations transferred mostly through hiring. The cultural-cognitive factors are based on the "subconsciously accepted rules and customs as well as some taken-for-granted cultures" gained through socialization (Scott, 2001: 38). Finally, a shadow of hierarchy cast by the state through regulations consists of "explicit regulative processes: rule setting, monitoring and sanctioning" (Scott, 1995: 35). These perspectives are mostly influenced by institutional actors such as competitors, industry associations, consumers, NGOs, regulatory agencies, media and journals which constitute an "organisational field". After a period of time, the organisational field will establish norms, policies and standards of accepted behaviour that will shape companies' climate change practices (Powell, 1991; Scott and Meyer, 1994).

Table 2.3: The three pillars of institutions (adapted from Scott, 1995)

	Regulative	***Normative***	***Cognitive***
Basis of compliance	Expedience	Social Obligation	Taken for granted
Mechanisms	Coercive	Normative	Mimetic
Logic	Instrumentality	Appropriateness	Orthodoxy
Indicators	Rules, laws, sanctions	Certification, accreditation	Prevalence, isomorphism
Basis of legitimacy	Legally sanctioned	Morally governed	Culturally supported, conceptually correct

Corporate responses to climate change can also be influenced by normative pressures which stem from "professionalization" (DiMaggio and Powell, 1983). The authors interpret professionalization as "the collective struggle of members of an occupation to define the conditions and methods of their work to control the production of producers and to establish a cognitive base and legitimation for their occupational autonomy" (p. 54). This means managers' environmental values are influenced by education systems they attend. Therefore, they will most likely have similar worldviews about climate change with managers who have similar training and in the same practice. Furthermore, these organisational strategies will be influenced by professional networks which can span organisations through industry and professional associations that can diffuse knowledge and values rapidly (Perrow, 1974). As result, these

professional and trade organisations will create a pool of "interchangeable individuals who occupy similar positions across a range of organisations and possess similar orientation and disposition that may override variations in tradition and control that might otherwise shape organizational behavior" (Perrow, 1974: 87). More so, many professional career tracks are so closely guarded, both at the entry level and throughout the career progression that individuals who make it to the top are virtually indistinguishable (MIzruchi and Fein, 1999). In addition, individuals in an organizational field undergo anticipatory socialization to common expectations about their personal behaviour, appropriate style of dress and organizational vocabularies. Kanter (1977: 34) refers this filtering of personal approaches as "homosexual reproduction of management to the extent that managers and key staff are drawn from the same universities and filtered on a common set of attributes…….they will tend to view problems in a similar fashion, see the same policies, procedures and structures as normatively sanctioned and legitimatised and approach decisions in much the same way".

2.6.1.1 The shadow of hierarchy

The shadow of hierarchy is generated "when state actors credibly threaten the unilateral adoption and enforcement of collectively binding rules on the provision of common goods and their unilateral provision, respectively, if non-state are not willing to engage in governance" (Börzel, 2012: 8). This threat usually provides a major incentive for non-state actors to engage in non-hierarchical private and collective self-regulation (Scharpf, 1997). In many cases the private sector, particularly, low GHG emitting industries are unwilling to incur the transaction costs associated with climate change governance especially if the policy outcomes do not correspond to their strategic interests. Therefore, it will take the threat of a hierarchically imposed decision to compel non-state actors to engage in self-regulation (Heritier *et al*, 2008). Moreover, the continual threat of hierarchical intervention will reduce the possibility that non-state actors reneging their voluntary commitments such as emission targets. This is very often the case in collective arrangements involving business associations which have minimal sanctioning capabilities to firstly, to monitor and punish private actors who do not conform to agreed voluntary arrangements and secondly, to deter their members who opportunistically implement voluntary agreements (free-rider problem) (Albanese and Fleet, 1985; Bennet, 1998). Regarding the later, it is also difficult for the state actors to deter and sanction companies from free-riding. However, Börzel (2012) argues that the free-riding problem by non-state actors is often unlikely to occur if the state is a participant in the voluntary agreement and reviews the negotiation outcomes to ensure they correspond to the common good. This is very important when business is involved because unlike state actors and non-profit organizations (for

example, public pressure groups), they are not legally bound by formal institutions to purse the common good such as global climate change governance (Börzel, 2012). Nevertheless, it will be valuable to understand the extent to which the state actors can provide this service in areas where the state institutions are inherently weak, for example, the Energy Efficiency Accord in both South Africa and Kenya.

Several authors have empirically shown that the shadow of hierarchy cast by a consolidated statehood is key in driving the governance contributions of non-state actors (Heritier and Rhodes, 2010; Heritier and Lehmkuhl, 2008; Börzel, 2009). However, in areas of limited statehood, multinationals are often hosted by states which loosely adhere to global social and environmental rules and are neither willing nor capable of ensuring that private actors comply with these rules (Börzel and Hönke , 2011; Muchlinski, 2007; Zerk, 2006). Therefore, the lower the state's capacity to develop and enforce regulations, the greater the need for non-state actors to participate in non-hierarchical self-regulations. However, the literature indicates that the weak shadow of hierarchy often results in non-compliance by non-state actors possibly because of the higher transaction costs involved in contributing to environmental governance and the lack of correlation between their strategic interests and reducing the impacts of climate change (Börzel, 2010). The level of non-compliance is even higher if international institutions and the home countries of multinationals are also unwilling and incapable of compensating for weak governance structures (Börzel, 2010). This is very prominent in human rights violations in conflict zones (Sacharoff and Brook, 1997; Alston, 2005; Börzel and Hönke , 2012).

2.6.1.2. Functional equivalents to the shadow of hierarchy

Governance literature discusses the existence of functional equivalents to the shadow of hierarchy which can act as drivers to non-state actors' engagement in provision of governance services (Börzel and Risse, 2010; Börzel, 2010; Jessop, 1995). These functional equivalents can be conceptually distinguished according to the logic of consequences or the logic of appropriateness (March and Olsen, 1998; 1996). The logic of consequence argues that "self interested and utility-maximizing actors are likely to contribute to governance given the right incentives and/or if those actors are embedded in institutional settings constraining them" (Börzel and RIsse, 2010: 120). The two alternatives to the shadow of hierarchy using the logic consequences are the risk of anarchy or the involvement of external actors able to cast a shadow of hierarchy (Alxelrod and Keohane, 1985). The risk of anarchy or shadow of anarchy refers to a situation where if companies' competitiveness or profitability highly depends on the provision of certain goods such

as a stable climate and collective binding rules to ensure that, then they have an incentive to step in and contribute to climate change governance. As an example, in the insurance industry, due to the frequency of extreme weather events insurance companies are forced to pay large amounts of money in claims. Therefore, to reduce these claims they are forced to find innovative solutions to adapt to these extreme weather events (Skees, 1999; 2008). This indicates that governance is possible even in absence of a credible shadow of hierarchy.

However, in other cases external actors such as international organizations and foreign governments can compel non-state actors to contribute to governance (Metherson, 2001; Weiss, 2000). International organizations such as the United Nations and foreign governments may intervene to provide governance in states which have failed or are unable to provide some levels of statehood (Weiss, 2000). This is very common in areas which are experiencing conflicts, for example, Iraq and Afghanistan when at some point the state was unable to provide security. In response, foreign governments intervened to provide security in certain areas with the countries (Dobbins, 2003; Rubin, 2007). However, there is a lot of uncertainty on how effective external actors are effective in providing governance in these circumstances (Fearon and Laitin, 2004; Paris, 2004; Schneckener, 2010). Whilst climate change might not be as critical as national security, it is still worthwhile attempting to understand how external actors, particularly international organizations act as a functional equivalents to the shadow of hierarchy in states where the government does not have the capacity to develop and enforce climate change regulations. It will be even more interesting to understand how external actors complement states when the shadow of hierarchy is not completely absent but the state cannot enforce regulations.

In addition, companies and other non-state actors can be obliged to comply with standards of good governance in areas of limited statehood (Börzel and RIsse, 2010). This obligation compels non-state actors to contribute to governance in principle because the state is unable to take necessary action (Buhring and Hufken, 2008). Furthermore, non-state actors are also accountable to international laws which compel them to provide governance in areas of limited statehood. However, the challenges in the effectiveness of this, particularly, the enforcement of international law in areas of limited statehood need to be further investigated (Börzel and Risse, 2010). Finally, multinationals can also be compelled to contribute to governance in areas of limited statehood by regulations in their home country (Kolk and Pinkse, 2009; Prakash and Potoski, 2007; Thauer, 2009; Greenhill *et al*, 2009). Most often these home countries were the MNCs have headquarters have consolidated statehood which enables the state enforce the regulations. As an example, the EU Emission Trading System compels companies which have headquarters and operations

in Europe to participate in the carbon trading system even most of their GHG emitting activities are located in other areas which have no climate change regulations. However, limits still exist regarding the extent to which home country regulations can be used to induce firms contribute to governance in areas of limited statehood because it difficult to monitor activities beyond supply chains (Börzel and Risse, 2010; Flohr *et al*, 2010; Heritier *et al*, 2009). This is even made more difficult if the areas of limited statehood were these MNC operate are in a "race to the bottom" to attract FDI.

According to the logic of appropriateness actors are "embedded in normative structures that induce them to "do the right thing" and to follow "social rules" (Börzel and Risse, 2010: 120). Many areas of limited statehood are occupied by communities with their own social norms of appropriate behavior. Customers, local communities, environmental interests groups usually develop "societal rationalized myths" about what organisations should look like and do (Meyer and Rowan, 1977; Pfeffer and Salincik, 2003). Therefore, managers can avert negative public attention and build stakeholder support by being responsive to certain environmental myths espoused by these stakeholders (Doh and Guay, 2006; Weigelt and Camerer, 1988). This usually results in improved reputation and legitimacy. The South African mining industry has been exposed to this process regarding workers rights and pollution. During the apartheid the state was complicit in undermining the human rights of local workers and degrading the natural environment (Hamman, 2004). However, in the post-Apartheid era local communities have very often partnered with NGOs to expose mining companies and demand them to respect their social rights and clean up the environment (Hönke *et al*, 2010; Hamman, 2004; Mueller-Debus and Thauer, 2009). Local communities do not necessarily provide a shadow of hierarchy, but they have the potential to link with advocacy networks such NGOs to put pressure on companies to contribute to governance (Edwards *et al*, 1999; Gough and Shackley, 2001; Keck and Sikkink, 1998). Due to the impact of these advocacy campaigns on companies' reputation, firms are forced to respond corporate social responsibility (CSR). Whether these CSR activities make a difference is an issue which has been debated extensively (Hamman, 2006; 2007; Idemudia, 2011).

In some instances, NGO and social movement campaigns often induce companies to integrate these social and environmental issues into their core strategy, particularly, companies which have a brand name to defend (Lai *et al*, 2010; Nan and Heo, 2007). These campaigns also affect companies which have huge markets mostly in areas of consolidates statehood were the consumers often purchase products based on their level of sustainability (Potoski and Prakash, 2006; Heritier *et al*, 2009; Flohr *et al,* 2010). As an example, the Coalition for Environmentally Responsible Economics (CERES), an NGO that represents

investors initiated a campaign requested Nike to disclose about its contract factories (Reid and Toffel, 2009). These pressures induce firms with strong brands such as Nike to integrate environmental and social sustainability issues in their production, management and business practices (Thauer, 2009; Dunn and Flavin, 2002).

The increased pressures from advocacy groups and society on companies to contribute to the provision of governance services in areas of limited statehood indicates that the markets in which companies operate are socially embedded (Uzzi, 1997; 1999). Companies which have been able to recognize the social embeddedness of markets have been able to self-regulate themselves to the extent of acting as inspectors to their suppliers (Heritier *et al*, 2009). In addition to this, several companies have also started to participate in sustainability indexes such as the Dow Jones Sustainability Index, an activity which also enhances their reputation (Pruzan, 2001; Kolk, 2004). This implies that reputational concerns about socially accepted behavior induces firms to take norms more seriously (Börzel and RIsse, 2010). Norm compliance can then turn into a strategic advantage in competitive markets leading to a "race to the top" regarding regulatory standards (Börzel *et al,* 2011).

Institutional theorists argue that in certain circumstances these "societal rationalized myths" might not comprise an efficient solution for a company to respond to climate change or competing rational myths could exist simultaneously (Boxembaum and Jonsson, 2008; Ruef and Scott, 1998). For example, there could be certain sections of the society who are climate change sceptics and advocate companies to adopt different strategies. Furthermore, institutional pressures might be at odds with the strategic interests (for example, profits) of an organisation (Grilly *et al*, 2012). Firms in these circumstances tend to decouple, which means they respond superficially to institutional pressures and adopt new structures without necessarily implementing the practices advocated by large sections of the society (Boxembaum and Jonsson, 2008; Westphal and Zajac, 2001). Some organisations might make a strategic choice to become institutional entrepreneurs – "actors who have interests in particular institutional arrangements and who leverage resources to create new institutions or to transform existing ones" (Maguire *et al*, 2004: 657; Fligstein, 1997; Greenwood and Suddaby, 2006). This strategy could be common in an emerging institutional field on issues such as climate change, especially in areas were the governance and institutional frameworks are still weak, and also given the significant business interests at stake in the climate change policy area, for example, the issue of carbon tax (Börzel asnd Hamann, forthcoming).

Organisations might also adopt strategies autonomously from the influence of the external drivers (Hoffman, 2001). This means that companies which belong to the same organisational field might adopt different climate change strategies (Greenwood, 2010; Delmas and Toffel, 2004). Levy and Rothenberg (2002) describe several mechanisms by which institutionalism can encourage heterogeneity. First, they argue that institutional forces permeate an organisation's boundaries because they are filtered and interpreted according to the firm's unique history and culture. Secondly, they describe how an institutional field may contain conflicting institutional pressures that require prioritization by managers. Third, they describe how multinational and diversified organisations operate within several institutional fields at both the societal and organisational levels-which expose them to different sets of institutionalized practices and norms.

This means that institutional drivers need to be seen in conjunction with organisational strategies and capabilities (Hamman and Börzel, 2013). This is because organisations operate in an organisational field which is driven by both institutional and organisational drivers. For example, companies' competitive drivers that motivate innovation are complemented by institutional factors that ensure that such innovations are adopted by companies more widely. This interaction between institutional and organisational drivers also means that companies' strategies can neither be characterised as competitiveness or legitimacy (Hamman and Börzel, 2013). Rather, these issues are likely to be intrinsically enmeshed. For instance, in areas of limited statehood where there is regulatory uncertainty, companies will tend to mimic companies considered successful. Through the mimicry, companies will gain a competitive advantage and increase their legitimacy.

2.7. Organisational drivers

There have also been theoretical approaches emphasising companies' legitimacy and competitiveness based on market and internal resources as a driver to corporate responses to environmental issues. While companies in the carbon intensive sectors receive much attention in the climate change debate because they are significant emitters, they at the same time also possess significant capabilities to develop climate friendly products (PInkse and Kolk, 2009; Hall and Vredenburg, 2003).

Strategic management theory argues that some companies are able to respond to climate change and gain competitive advantages and legitimacy because they possess unique resources and capabilities which are

difficult to imitate or substitute (Barney, 2001; Grant, 1991). A company develops these unique capabilities in a systematic manner based on routines that they have developed over time (Pinkse and Kolk, 2009). The capabilities have strategic value because they help companies maintain a first mover advantage due to the fact that their routine based nature inhibits instant imitation (Barney, 1991). The extent to which a company is able to benefit from opportunities from climate change does not only depend on existing capabilities, but their flexibility to develop new capabilities (Pinkse and Kolk, 2009). Since climate change is an emerging organisational challenge, one capability that will enhance the development of a competitive climate change strategy is organisational learning (Sharma and Vredenburg, 1998). It means a company has to have the capability to learn how climate change affects its core business and which strategy adjustments are required to manage these impacts optimally (Kolk and Levy, 2004; Pinkse and Kolk, 2009).

Sustainability-specific capabilities such as the ability to understand the signals and impacts of climate change are not necessarily the main driver behind a competitive strategy to climate change (Pinkse and Kolk, 2009). Instead, these capabilities must be tied to other functional capabilities in R&D, product design and marketing (Judge and Douglas, 1998). As a result, the climate change strategy will have to build on existing resources and capabilities which will enable the company to be competitive. As Porter (1996:3) points out "competitive strategy is about being different. It means deliberately choosing a different set of activities to deliver a unique mix of value". There is no one size fits all approach to climate change. Each company's approach will depend on its particular business and should mesh with its overall strategy (Porter and Reinhardt, 2007). Much of this analysis is based on advice to practitioners which leaves an empirical gap to understand how these organisational drivers influence companies' climate change strategies, particularly firms in areas of limited statehood who have other socio-economic challenges to respond to.

Managerial perceptions and leadership commitment also play a role in companies' response to climate. (Hoffman and Barnett, 2008; Levy and Kolk, 2002). The top management team sets the strategy of the organisation and embodies its culture (Hoffman, 2010). Therefore, if the senior leaders do not support a climate change initiative, then it will most likely fail. Furthermore, the company's leadership also determines the strategies a company is likely to pursue. For example, if climate change is viewed as a regulative risk, the company leadership will focus on corporate political action, but if it tends to be viewed as physical impacts of weather related events, the company will focus their strategy internally.

In addition, organisational culture and a company's specific history shape the perception of climate change in a company (Hoffman, 2010). One of the reasons that ExxonMobil has been rather reluctant to invest in renewable energy was because it made a huge loss on such investments in the early 1980s when the Reagan administration suddenly stopped granting large subsidies instigated by the president Carter (Pinkse and Kolk, 2009). Research has also shown that organisational culture could play an influential role in driving a company to innovate (Amabile, 1998; Amabile, 1996; Kanter, 1988). This could mean that companies will be innovative in finding climate change solutions, for example, if there is frequent communication among individuals in different departments (Martin, 2002). In this environment, there should be group cohesiveness which will allow for open debates (Mclean, 2005). However, the level of innovation will ultimately depend on whether climate change is a material issue for the company.

Business contributions to climate change governance can be also be influenced by asset specificity (Thauer, 2013). Asset specificity characterises a transaction if the related investments (for example, human and physical resources; brand name and dedicated assets) are non-redeployable, specialised and unique to a task (Williamson, 1992). Actors that are "dependent on each other are vulnerable because suppliers can redploy the specialised assets to their next best use only at a loss of productive value" Williamson, 2002: 176). As a result buyers could face transaction exit costs because they will have to search for new suppliers (Williamson, 2000; 2002). Therefore, to avoid contractual hazards which occur in these transactions, some firms devise governance rules which guide the transactions between partners. These governance rules guide the transactions in case uncertainties and conflicts arise. Normally, one of the main transaction partners will take the responsibility of an inspector to monitor the abidance of the rules (Brousseau and Fares, 2000).

In their study of the automobile and textile industry in South Africa, Heritier *et al* (2009) argued that the higher the mutual investment in the exchange relationship between two firms, that is, the higher the asset specificity of the relationship, the more a firm behaves as an inspector towards their supply chain. Firms that maintain high asset high asset specific relations with their suppliers, as measured by investments in personnel training, skills, expertise and capital investment tend to a to act as inspectors towards their supply chain (Heritier *et al*, 2009). In addition to being inspectors manufacturing firms such as BMW identified functional equivalents whom they delegated certification functions (that is, ISO 14001).

On the other hand, intra-firm relations regarding asset specificity could also influence how business firms self-regulate (Thauer, 2013; 2012). Within organisations, the deployment of resources to one department

creates pockets of expert knowledge inside the company which could result in information asymmetries between managers in the department and those in other departments or at the head office (Theaur, 2013; 2012). However, as illustrated by Thauer (2013, 2012), management that will have an asset specific relationship with a production department which makes it difficult for them to redeploy the investments and shift its strategic focus, will implement strict environmental standard to reduce its vulnerability to local institutional pressures such as NGO protests.

2.8. Conclusion

A summary of the literature review is illustrated in figure 2.5 which outlines how and why companies in areas of limited statehood contribute to climate change governance. The emerging organisational field around climate change provides various pressures and incentives for business governance contributions, and at the same time open it to influence through firms' individual or collective political activities (figure 2.5). The literature review showed that there are different aspects of the climate change domain from which companies can select as part of their strategy. These different aspects can be broadly characterised as mitigation or adaptation, with mitigation focusing on efforts to reduce GHG emissions whilst adaptation aims to cope with the current and forecasted climate change impacts. Existing institutional and organisational drivers lead companies to contribute to mitigation and adaptation through various forms of governance contributions. Firstly, the private sector could engage in private self-regulation were at times they impose stricter self-regulatory standards or even press governments for stricter public regulation. In addition to this business firms can adopt a role as "inspector" by deploying supervision activities over their supply chain. Secondly, the private sector can participate in self-regulation through partnerships. This form of collective self-regulation occurs in different forms. Companies could be coopted by the state to provide expert advice, moral authority and legitimacy. The state can also delegate some governance functions to the private sector. Finally, the private sector can have shared responsibilities in setting and implementing rules (co-regulation) or they can be involved in public regulation through corporate political activities.

Figure 2.5: An outline of expected drivers and conditions for business contributions to climate change governance in areas of limited statehood

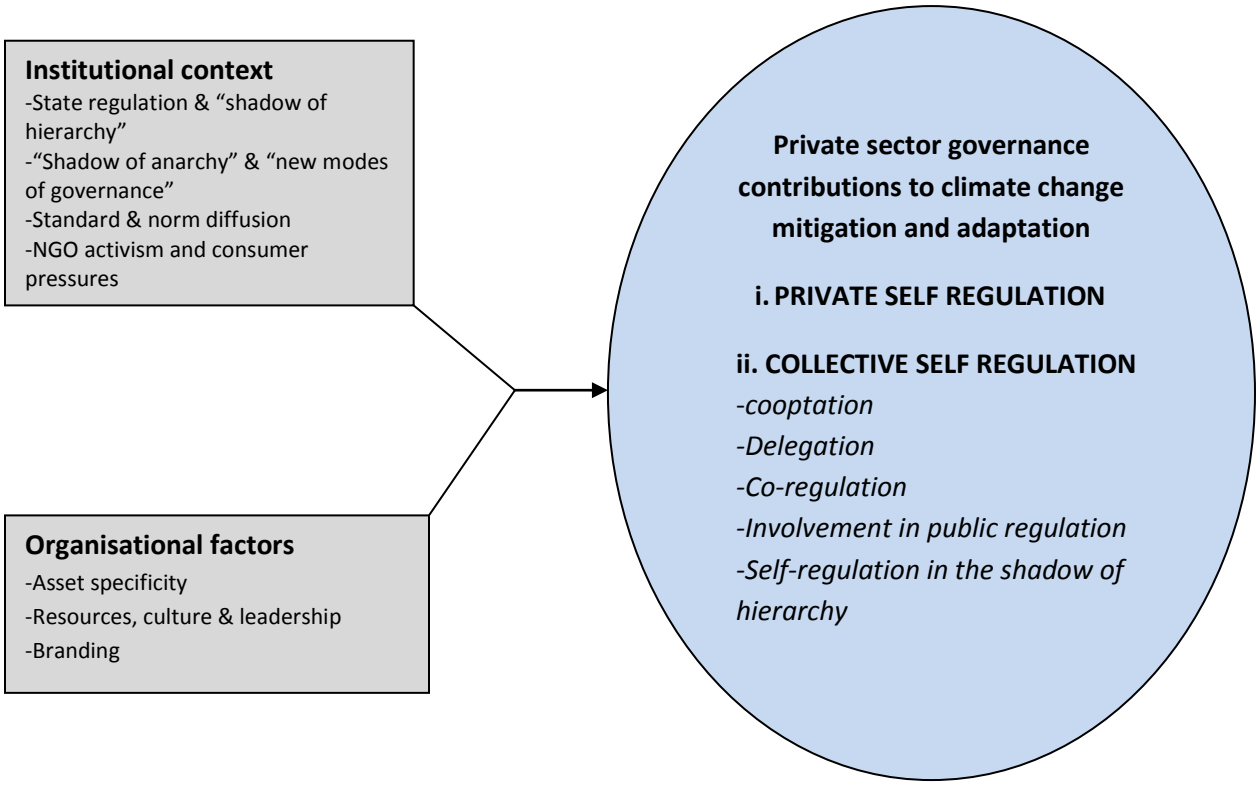


Figure 2.5 also outlines the main drivers and conditions which influence business contributions to climate change governance, particularly in areas of limited statehood. Some of these areas of limited statehood have emerging climate change policies which present some form of "shadow of hierarchy". On the other hand, the absence of stringent regulations might also create a "shadow of anarchy" when there is no political order in the organisational field which allows firms to operate and compete. This will create incentives for the companies to participate in governance. As a result, companies will weigh the option of collaboration or voluntary commitments to fill the governance gap in order to avoid the danger of not having a common good at all (Risse and Lehmkuhl, 2006). The private sector together with different actors might provide functional equivalents to the state. These functional equivalents to the state result in non-hierarchical "new modes of governance" such as voluntary partnerships. Furthermore, due to stock exchange listings, international standards and home country regulations, multinationals can be obliged to comply with standards of good governance in irrespective of where their operations are located.

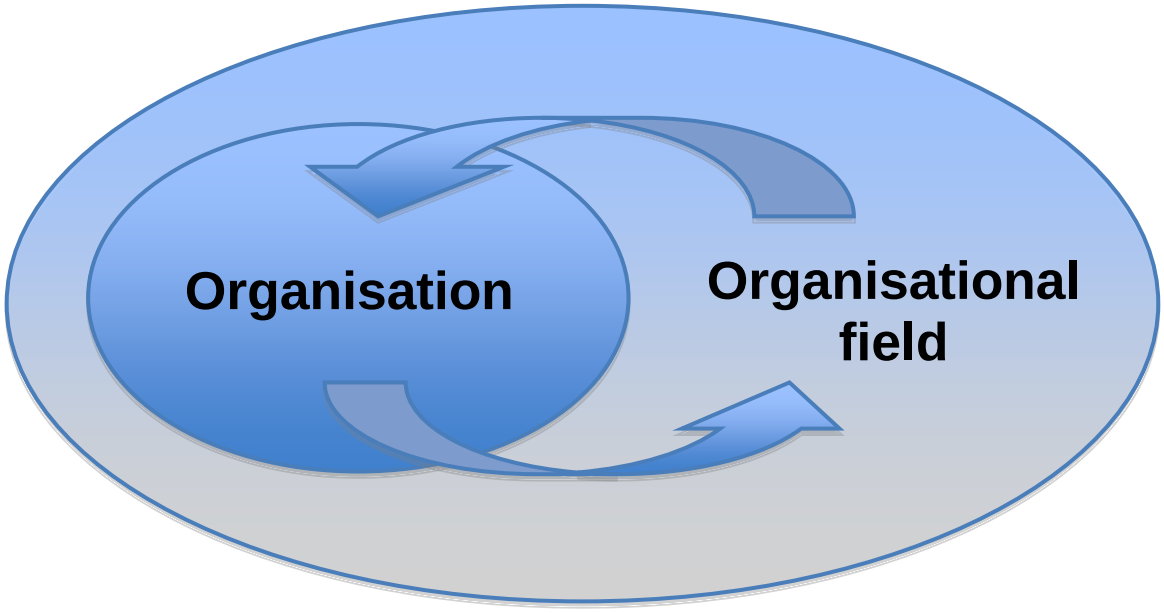
Institutional theory also discusses the role of “professionalization” which could result in isomorphic behaviours in responding to climate change as managers who belong to similar social networks such as professional and industry organisations will have similar values and perceptions about climate change. In addition, companies might mimic the behaviour of those companies that are considered successful, especially in the context of uncertainty in areas of limited statehood in emerging economies. NGO activism and customer pressures are also important in influencing firms’ responses to climate change. However, there are instances when certain companies have their own strategic interests which do not conform to the “rationalized myths” or the current norms and standards on climate change. In these circumstances, companies might decouple or aim to change or develop new institutions. Finally, the model discussed the role of organisational capabilities, leadership and culture influencing a company’s climate change strategies. These institutional and organisational drivers are usually inter-related as companies aim to gain a competitive advantage and legitimacy. Competitiveness and legitimacy are inherently enmeshed as companies avoid losing customer loyalty and their reputation, and consequently, their market share. In addition to this, the some organisations might have high asset specific relationships with their supply chain which might compel them to adopt the role of an inspector.

CHAPTER THREE
METHODOLOGY

3.1 Introduction

The previous chapter provided a conceptual discussion on how and why companies contribute to governance of public goods in areas of limited statehood. The framework outlined that in areas were regulations are weak or absent, companies engage in private self-regulation and collective self-regulation with other actors, particularly with government and NGOs. Currently, these contributions focus on climate change mitigation with limited efforts on adaptation. These climate change strategies are influenced by specific organisational characteristics and a company's organisation field which is shaped by the regulative, normative and cognitive pressures. In reverse, the companies can also influence the organisational field to ensure that the institutions meet their strategic needs, be they competitiveness or legitimacy. Therefore, the research object is defined as the climate change organisational field, in which organisations and institutions interact with reference to climate change (see figure 3.1).

Figure 3.1: Schematic representation of interactions between organisations and the organisational field in tackling climate change (adapted from Hamann and Börzel, 2013)



To investigate the organisational and institutional interrelationships in the emerging climate change organisational field as highlighted in figure 3.1, the following research questions are developed:

(1) What are the predominant climate change governance contributions adopted by companies in areas of limited statehood?

(2) What are the conditions and drivers that give rise to these governance contributions?

The first question on how companies contribute to climate change governance is concerned with understanding companies' governance contributions in areas of limited statehood, with a focus on climate change mitigation and adaptation. The question acknowledges that organisations are not passive respondents to institutional pressures, but have diverse strategic interests. As a result, organisations may participate in public policy formulation, often times through political activities such as lobbying to influence their organisational field (bottom arrow figure 3.1).

The second question on drivers and constraints relates to the incentives and limitations for corporate climate change governance contributions and is interpreted in terms of the roles and inter-relationships between the organisational and institutional drivers. Companies which are capable to utilise their existing capabilities or learn and develop new capabilities to respond to climate change are most likely going to gain first mover advantages over their competitors. At the same time, climate change has led to diverse changes in regulative, normative and cognitive institutions and these exert pressures on companies to respond. In emerging markets were regulations are absent or weak, organisations engage in self regulation or collaborate with other actors. The organisational capabilities which are usually seen as the main to driver to competitiveness by strategic management authors need to be analysed in conjunction with institutional pressures because institutional factors can also be important determinants of economic competitiveness of a company.

To extensively explore how and why companies in areas of limited statehood contribute to climate change governance, the research selected South Africa and Kenya as the case study countries as they illustrate countries with varying levels of limited statehood. This research is carried out using a mixed method approach which utilised a survey through content analysis and a case study approach to "allow for value laden opinions; subjectivity and people's personal views to come out in the research process as it is this richness of expertise and experience that provides depth to the research"(Jick, 1979: 603).

3.2 Mixed Method Approach

In an effort to capture a more complete and holistic portrayal of the inter-relationships between the organisations and the organisational field in areas of limited statehood, the research utilised a mixed method approach. According to Johnson and Onwuegbuzie (2004: 17) mixed methods research is a class of research "where the researcher mixes or combines quantitative and qualitative research techniques, methods, approaches, concepts or language into a single study".

In this research, the survey and the case study approach complemented each other in increasing the robustness of the results. Firstly, the two methods complement each other conceptually. The typology by Kolk and Pinke (2005) adapted for the data generation process of the survey has a strong focus on climate change mitigation, with limited focus on adaptation. This is partly because there is no common definition of adaptation among business due to lack of understanding of the concept (Kolk and Pinkse, 2012). This limited understanding could result in fewer companies reporting about climate change adaptation. Furthermore, most of the empirical research on business contribution to climate change governance has revealed that companies focus their efforts mostly on mitigation (Jeswani *et* al, 2008; Kolk and Pinkse, 2007; Pinkse and Kolk, 2009; Weinhofer and Hoffman, 2010) Due to this gap, the case studies are utilised to investigate companies' adaptation contributions and mitigation efforts which are not fully explored in the content analysis. This does not mean that the survey was less valuable because the configurations that emerged from the cluster analysis of the survey data are used to define the preliminary themes of the main governance contributions (figure 3.2). The case study is used to further investigate, cross-validate and develop the initial themes. The fact that the content analysis is conducted in an inductive manner helps the commensurability of this particular sequential mixed method approach. If the survey was carried out in a deductive manner (hypothesis testing), then it would have been carried out after the case study.

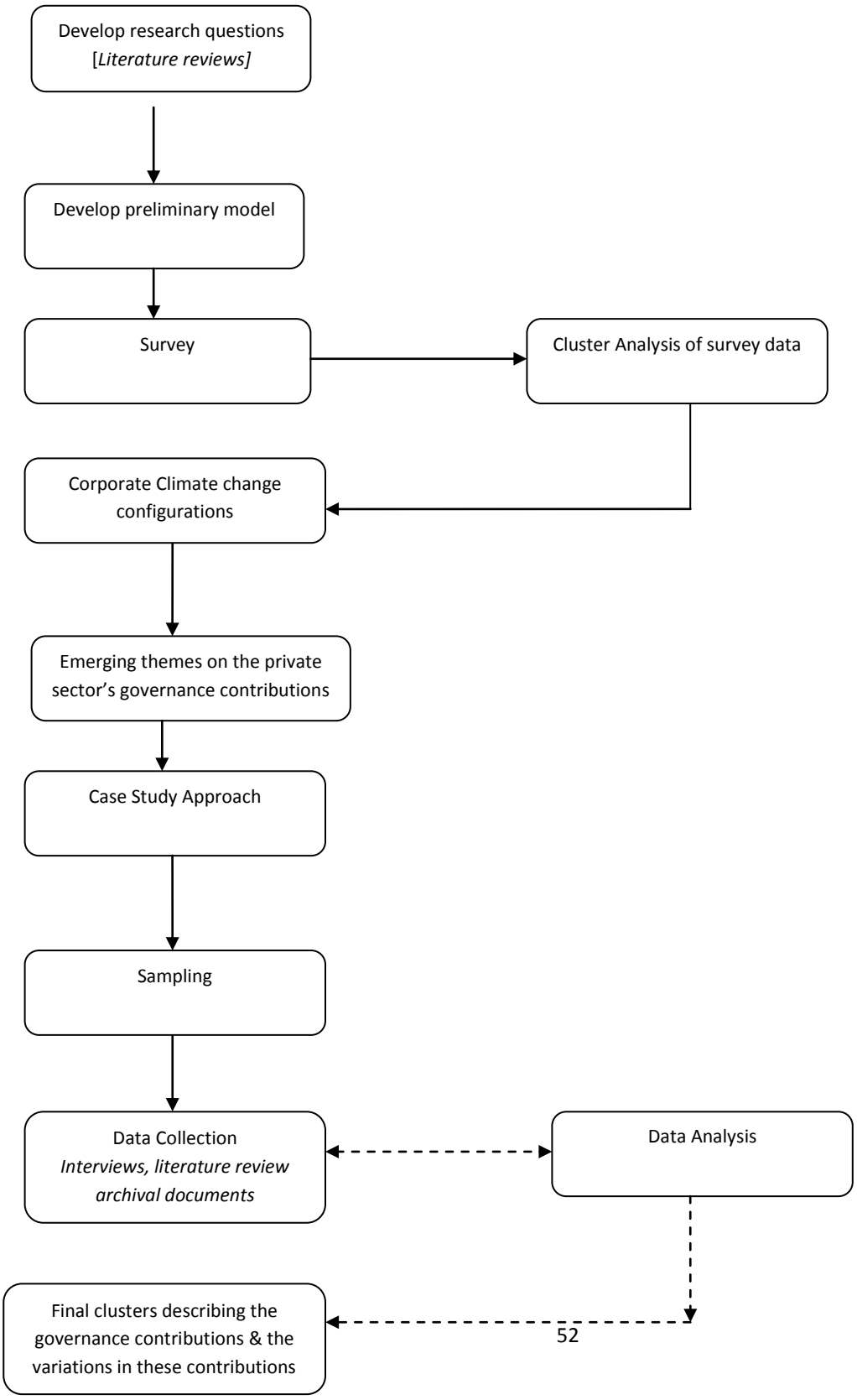
The two approaches also complemented each other in that the survey guides the sampling and data collection strategy for the case study. The survey reveals that co-regulation through the energy efficiency accords is a common governance contribution among companies, particularly, the energy intensive companies in both countries. To further investigate this issue and its drivers and constraints, the case study selected sectors which implemented energy efficiency guidelines and standards at varying magnitudes. As a result, heavy industrials and food and drink manufacturing sectors which predominantly adopt process innovation as a mitigation strategy were selected. On the other hand, the banking and finance sector which is less energy intensive was selected. The content analysis also revealed the role of organisational factors in influencing firms' climate change contributions. Company reporting does not comprehensively

reveal some of the underlying values and cultures which shape these contributions, hence, the case study utilised in-depth interviews to further investigate these organisational drivers.

The ability of the case study approach to cross-validate the results from the survey enhanced the "belief that the results are valid and not a methodological artefact" (Bouchard, 1976: 277; Johnson *et al*, 2003). The mixed method approach had the ability to capture a complete portrayal of the inter-relationships in the climate change organisational fields in both Kenya and South Africa which otherwise may have been neglected by single methods (Creswell and Clark, 2007; Jick, 1979). It is here that the case study played a prominent role by eliciting data and suggesting conclusions to which would be unclear and unconvincing with the use of the survey only. In this sense, mixed methods may be used not only to examine the "same phenomenon from multiple perspectives but also may be used to enrich [the] understanding by allowing for new or deeper dimensions to emerge" (Jick, 1979: 603). Although it has been observed that each method has its own "assets and liabilities", a mixed method approach purports to "exploit the assets and neutralize, rather than compound the liabilities" (Jick, 1979: 604; see also Brewer and Hunter, 1989).

The research process for conducting this mixed method approach is outlined in figure 3.2. The data from the content analysis is analysed using cluster analysis to identify configurations of the main governance contributions adopted by companies in responding to climate change. These configurations and some of the related drivers are used to develop themes on the main climate change governance contributions by the private sector. These emerging themes are further refined using different data collection methods from the case study approach. The final output from the research is a discussion outlining the main governance contributions in areas of limited statehood and the variation in these governance contributions at different levels between countries, sectors and different companies.

Figure 3.2 Outline of the research process adopted in this study (*The dotted lines reflect the iterative process between data collection and data analysis and conceptual framework development)*



The case study research process was inductive in nature which means there was a back and forth process between data collection and data analysis. According to Flick (2002: 43) "the close link between collecting and interpreting data on the one hand and the selection of empirical material on the other, unlike in the traditional linear method of proceeding, allows the researcher not only to ask the following question repeatedly but also to answer it: how far do the methods, categories and theories that are used do justice to the subject and the data?"

3.2.1 Exploring the "Paradigm Wars"

The researcher embarked on a mixed method approach well aware of the "paradigm wars" (Lincoln *et al* 2011; Tashakkori and Teddlie, 1998) which commenced with a challenge to the dominance of the mono method era of the 1960s. The concept of paradigm refers to a shared belief system that influences the ontology (form and nature of reality), epistemology (nature of relationship between the knower or would be knower (inquirer/researcher) and what can be known) and methodology (how the inquirer finds out whatever he/she believes can be known) (Morgan, 2007; Guba and Lincoln, 1994).The paradigm incompatibility perspective asserts that the conflict between qualitative and quantitative research is so fundamental that it is impossible to combine them without violating philosophical principles (Bryman, 2007; Tashakkori and Teddlie, 2003; Sale *et al*, 2002). A number of authors (Guba and Lincoln, 1994; Burrell and Morgan, 1979) suggest that the human mind can only work within one type of paradigm at any one time and that mixing paradigms is suicidal research. Therefore, they argue that quantitative research (the survey) which is mainly aligned with the positivist and post-positivist paradigms should never be mixed with qualitative research (case studies) which is mainly aligned to the constructivist paradigm (Lincoln *et al* 2011).

Historically, there has been heavy emphasis on quantification in organizational studies research (Abrahamson, 1996; Daft and Lewin, 1990; Guba and Lincoln, 1994; Lee, 1991). The quantitative purists believe that the social observations should be treated as entities in physical science and the observer should be separated from entities that are subject to observation (Maxwell and Delaney, 2004; Schrag, 1992). This paradigm argues that researchers should eliminate all biases, remain emotionally detached and uninvolved with objects of study and test or empirically justify their stated hypothesis (Johnson and Onwuegbuzie, 2004; Guba and Lincoln, 1994). This positivist approach involves the "manipulation of

theoretical propositions using the rules of formal logic and the rules of hypothetic-deductive logic" (Lee, 1991: 333).

On the other hand, the qualitative purists (Guba and Lincoln, 1994; Lincoln and Guba, 2000; Martin and Mehra, 1997; Schwardt, 1994; Smith, 1983) argue that the constructivist paradigm has multiple-constructed realities and that "context free generalizations" are not possible (Johnson and Onwuegbuzie, 2004). These varying constructions are interpreted using conventional "hermeneutical" techniques and are compared and contrasted through a "dialectical interchange" (Guba and Lincoln, 1994). The qualitative purists argue that research is value-bound; hence, it is impossible to differentiate the causes and the effects (Guba and Lincoln, 1994). In relation to this project, the constructivist paradigm suggests that the multiple constructed realities can be elicited and refined only through the interaction between the inquirer and the respondents in an iterative process of data collection and analysis to explain the multiple and complex inter-relationships in the organisational field which influence corporate climate change strategies. Despite these arguments, the research still utilised an inductive survey because it was very useful in implementing a sampling and data collection strategy for the case study approach. The configurations from the survey were helpful in refining the preliminary model and guide the case study approach investigate the important thematic questions for the research.

Johnson and Onwuegbuzie (2004: 15) argue that "epistemological and paradigmatic ecumenicalism" is possible, which means that it is reasonable to mix the survey and the case study approach. This entails that the key issues which were major points of philosophical disagreement can reach a consensus. Johnson and Onwuegbuzie (2004: 16) noted that numerous authors such as Reichardt and Rallis, 1994; Johnson *et al*, 2004; Sechrest and Sidani, 1995 have reached a consensus on certain methodological philosophical issues, for example, (i) what appears reasonable can vary across persons; (ii) what we notice and observe is affected by your background knowledge, theories and experiences; (iii) hypotheses cannot be tested in isolation because they are embedded in a holistic network of beliefs, and alternative explanations will continue to exists; (iv) humans can never be completely value free and values affect what we choose to investigate. This emerging harmony among methodology authors suggests that differences in epistemological beliefs should not prevent the mixing of the survey and case study research because the logic of justification does not dictate the specific data collection and data analysis method researchers can use (Creswell, 2003; Johnson and Onwuegbuzie, 2004; Darlington and Scott, 2002; Tashakkori and Teddlie, 2003).

The support for mixed method research resulted in the emergence of a third set of beliefs or approach which was utilised in this research---the "philosophy of pragmatism" (Creswell, 2003; Johnson and Onwuegbuzie, 2004; Greene, 2008; Morgan, 2007). Biesta (2010) cautioned against using pragmatism as a philosophical framework for mixed methods, but rather as a set of philosophical tools that can be used to address problems related to mixing methods. Beista argued that one of the central ideas of pragmatism in engagement of philosophical activity is that of addressing problems and not to build systems. As a result Biesta (2010) described this approach as the "philosophy of pragmatism". The main argument of the "philosophy of pragmatism" is that when judging ideas the empirical and practical consequences should be considered (Johnson and Onwuegbuzie, 2004).

3.3 Context of the Research

This research sets out to investigate how and why companies in areas of limited statehood contribute to climate change governance, with South Africa and Kenya as the case study countries. Much of the blame on GHG emissions has been placed on the private sector resulting in climate change being referred to as the greatest market failure the world has ever seen (Stern, 2007). As part of a global response, governments have been engaged in negotiations through the Kyoto Protocol to agree on efforts to curb these emissions and adapt to their impacts at the same time. At the regional and national level, states in areas with consolidated statehood for example, the European Union have responded by subjecting the private sector with stringent regulations such as the EU Emission Trading Scheme. Due to the presence of a shadow of hierarchy in these developed economies corporate responses to climate change involve a combination of compliance to the regulations and self-regulatory initiatives which at times involve sharing the governance responsibilities with the state.

However, in developing countries, particularly in Africa, the role of business in environmental governance is not very clear. The literature indicates that most African countries lower their environmental standards in a "race to the bottom" in competition for Foreign Direct Investment (FDI) (Chan, 2003; Singh and Zammit, 2004). As a result, multinationals relocate their GHG emitting activities to Africa (Kolk and Pinkse, 2009). Even though there is no convincing empirical evidence to support the "race to the bottom" theory, this argument puts to the forefront the role of business in environmental governance. This also introduces the academic debate on the interplay between business and environmental regulations in developing

economies (Hönke *et al*, 2008). This research aims to fill this gap by exploring the role of business in climate change governance in South Africa and Kenya, which are areas with varying levels of limited statehood. These two countries have varying levels of limited statehood. On one hand, South Africa has an emerging set of climate change regulations and policies but it still has limited administrative capacity to enforce the regulation (Hönke *et al*, 2008), and on the other hand, Kenya has virtually no explicit climate change regulations to influence companies' strategies. Therefore, it is expected that companies in South Africa are more responsive to climate change than Kenyan firms as they pre-empt impending regulations and respond to pressure from various stakeholders such as consumers and NGOs.

In the past few years, South Africa has managed to initiate the development of an emerging climate change policy framework. The National Climate Change Response Policy was approved by cabinet in 2011 providing a clear roadmap of how the country must respond to climate change. In addition the treasury in its 2012/13 budget announced that it will introduce a carbon tax of R120 (US$ 14) per ton of CO2e for emissions above set thresholds. The tax will come into effect in 2013/14 and increase by 10 per cent a year until 2020. Furthermore, South Africa has a string of environmental regulations for air pollution. However, despite these fairly strong emerging policies, South Africa still has a weak administrative capacity for implementing regulations and securing compliance (Börzel *et al*, 2010; Hönke *et al*, 2008).

Despite this progress, the state still has limited capacity to effectively implement environmentally related regulations. However, the different levels of weaknesses do not apply to all policy fields because there some policy fields, for example, Black Economic Empowerment (BEE) which are generally implemented and monitored effectively. The BEE legislation sets specific targets for companies on issues such as employment, procurement and ownership and these targets are closely monitored by the Department of Labour using score cards (Ponte *et al*, 2007; Seekings and Nattrass, 2011). According to DEAT (2000): quoted in Hönke *et al*, 2008), most of the implementation deficits are mainly attributed to two factors:

(i) vertical and horizontal fragmentation: "The confusing, complex and sometimes contradictory arrangement of institutions at the national, provincial and local levels and the allocation of responsibilities in the environmental sector to many institutions render an effective implementation of environmental provisions very difficult" (Hönke *et al*, 2008:12). In addition to this, there is no coordination within government departments with regard to environmental policies. For example, the Department of Agriculture is responsible for the regulation of pesticides, fertilizers and genetically modified organisms whilst the Department of Energy is mainly

responsible for renewable energy generation. This has left the Department of Environment, which is responsible for coordinating all environmental policies in a weaker state because it can't influence or coordinate the implementation of policies.

(ii) Limited administrative capacity: The institutional capacity at the national, provincial and local level are severely hampered by the lack of experienced staff, lack of financial support and the lack of a broader public involvement in environmental policies (Hönke *et al*, 2008). As a result when policies are devised at the national level, they cannot be effectively implemented and enforced at the local level (op.cit, Rampedi, 2006). Furthermore, the bureaucratic procedures at the provincial level, for example the implementation of Environmental Impact Assessment (EIA) tend to discourage companies to comply with these regulations (Pisani and Sandham, 2008; Sandham and Pretorius, 2008).

In contrast, Kenya does not have any explicit climate change regulations or policies. The National Climate Change Response Strategy (NCCRS), which was penned in 2010, has not been developed into any meaningful policy. These efforts are being undermined by an intense socio-economic growth orientation in the government regulations and policies which has resulted in misaligned incentives and priorities for business. This is worsened by an uncoordinated bureaucratic system resulting in inherent conflicts between the fragmented agencies in government (Kivuti, interview).

There are numerous assumptions that due to the absence of explicit environmental and climate change regulations, some developing countries have turned out to become "pollution havens"(Birdsall and Wheeler, 1993; Nahman and Antrobus, 2005). This literature postulates that pollution intensive industries relocate from developed to developing countries specifically to take advantage of less stringent environmental regulations (Cole *et al,* 2006; Silva and Zhu; 2009). However, such assumptions have found little evidence that trade flows respond to these differences:

> "a common result from these studies is that measures of environmental stringency have little effect on trade flows. This result immediately casts doubts on the pollution haven hypothesis, which holds that trade in dirty goods primarily responds to cross-country differences in regulations" (Antweiler *et al*, 2001: 879-880).

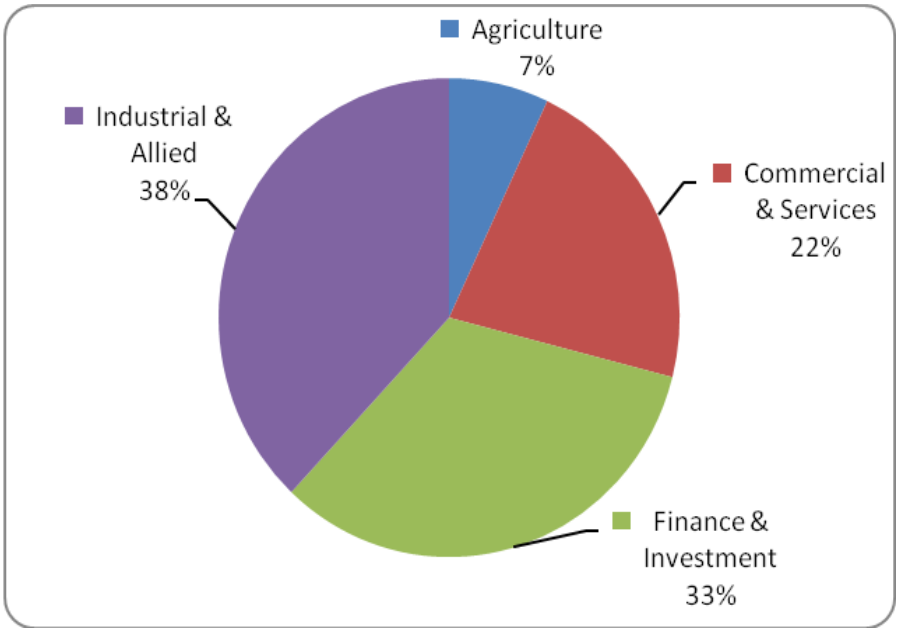
Even though there is not enough evidence to support the "pollution haven" hypothesis, Hönke *et al* (2008) argue that the concept marks an important starting point for the expansion of the academic debate on the interplay of business and environmental regulation in developing countries. This discussion could also be

expanded to include efforts by business to interact with governments in lowering or relaxing environmental regulations (Cho *et al*, 2006; Hönke *et al*, 2008, Levy and Egan, 2003).

3.4 Survey

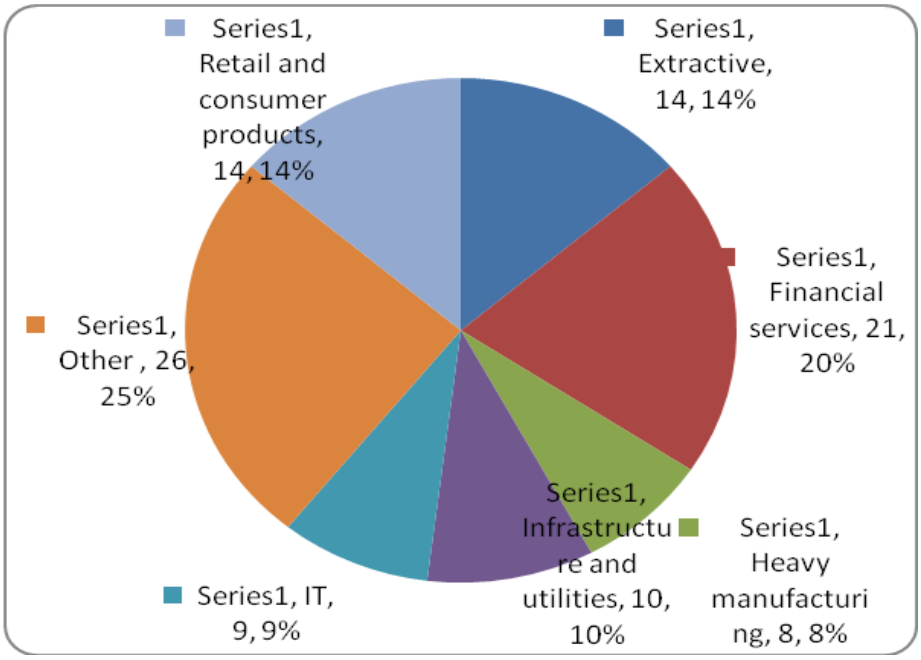
The survey is based on a content analysis of annual reports, sustainability reports and web-based content (all of which will be referred to as 'reports') of the 45 listed companies on the NSE and the top 100 companies listed on the JSE. The sectoral composition of this sample is illustrated in Figure 3.3a and b. To a large extent, the survey responds to research question one of the study which aims to investigate the climate change governance contributions of firms in areas of limited statehood. The survey responds to this question by developing configurations in describing corporate contributions to climate change in Kenya and South Africa. However, to a limited extent, some companies explicitly or implicitly discuss the main drivers of their actions. Therefore, some of these drivers are discussed together with the configurational descriptions of company strategies.

Figure 3.3a: Sectoral respresentation of sample companies on the Nairobi Stock Exchange (Kenya)[5]



[5] The categories are based on the company listings on the stock exchange.

Figure 3.3b: Sectoral respresentation of sample companies on the Johanesburg Stock Exchange (South Africa)[6]



Organisational configurations can be defined as commonly occurring clusters of attributes of organisational strategies, structures and processes (Mintzberg, 1983; Miles and Snow, 1978). The intention of the configurational approach is to increase the understanding of organisational phenomena by identifying a distinct and internally consistent set of firms (Ketchen *et al*, 1997). Configurations have prominently been used in exploring the determinants of performance. Similarly, improved understanding of corporate responses to climate change can be achieved by identifying distinct and coherent sets of firms.

As discussed in the mixed methods section, the survey mainly focuses on mitigation which is a limitation for the study. Even though adaptation is emerging to be an important aspect of climate change governance, there is still a perception that adaptation is not really relevant to a lot of sectors and companies have a peculiar view of what adaptation is, if they refer to it publicly at all (Ans Kolk, October 2012, email communication). However, there is evidence that some companies, mostly the "sustainability leaders", for example. Unilever have started reporting about their adaptation contributions. Therefore, the

[6] The categories are based on the company listings on the stock exchange

survey captured these adaptation contributions for companies that respond to them. Nevertheless, to address this limitation, the case studies are used to investigate companies' adaptation activities.

The variables for the content analysis data were generated using a selection of climate change indicators linked to the six strategic options presented in the typology by Kolk and Pinkse (2005) in chapter two (see Figure 2.2 in Chapter two). Kolk and Pinkse's (2005) typology of companies' strategic responses to climate change focuses on mitigation only. According to the typology, companies' governance contributions to climate change focus on two overarching strategic aims: innovation and compensation. When these two overarching strategic aims are combined with different levels of organisational activities and interactions, a matrix is developed to outline the strategic options in response to climate change (Kolk and Pinkse, 2005). In the resulting typology six strategic options emerge that could be part of a comprehensive strategy for climate change in which companies combine several options (op cit.). The vertical axis distinguishes the three different levels of organisational activities and interactions: within the individual company (internal), within the value chain (vertical), and with other private or public actors (horizontal). The horizontal axis outlines the two main drivers (innovation and compensation) of corporate responses to climate change.

Table 3.1 outlines a combination of the six strategic options in the Kolk and Pinkse typology and the indicators used in this study. The categories in Table 3.1 are related to the main strategic aims of *Innovation* and *Compensation* in the typology which have a strong emphasis on climate change mitigation. Organisations that have a strong internal focus through improving their dynamic capabilities and view climate change as an opportunity will tend to emphasise innovation in their GHG management. This means they will focus on improving their environmental technologies and services to reduce their emissions As a result, these companies will focus on process improvement, product development and new product and market combinations. On the other hand, there are companies that do not have the technical and organisational capabilities to innovate. Instead, these companies will focus on compensation by borrowing emission reduction technologies from other companies through GHG accounting and internal transfers, supply chain measures and acquisition of emission credits or political activism.

The first category *process improvement* focuses on understanding the degree to which the company is developing its resources and capabilities to tackle climate change through different internal processes. *Process improvement* mainly focuses on a company's self-regulatory efforts which often involve implementing standards and guidelines set from collective initiatives such as energy efficiency accords. Hence, the indicators are meant to identify the level of executive commitment to enhancing process

efficiencies in the company to reduce GHG emissions and whether staffs have concrete incentives to do this. In addition, the category includes indicators measuring the specific investment in equipment and resources to reduce emissions and whether such initiatives in process improvement are making a difference. The category in *GHG accounting and internal transfers* provides indicators that are meant to measure the internal compensatory measures within the company. They address the extent to which the company measures and discloses its GHG emissions and its targets and plans to internally transfer these emissions to other companies or business units in different locations. As the case with *process improvement, GHG accounting* involves implementing mostly collectively agreed global standards on measuring and reporting GHG emissions, in particular the GRI and the WRI/WBCSD GHG corporate accounting and reporting standard.

The *product development and supply chain measures* categories comprise indicators exploring the companies' collective self-regulatory initiatives along the supply chain. The *product development* indicators explore a company's innovation initiatives to develop new products and services within particular industries and the review of progress and status of these products and services in reducing GHG emissions. The *supply chain measures'* indicators focus on the compensatory activities of the companies within their supply chain. The *new product and market combinations* and *acquisition of emission credits and political activity* categories focus on different forms of collective self-regulation such as co-regulation and delegation of governance functions. The *new product and market combinations* category focuses on how the company evaluates and influences its supply chain to develop new products and enter new markets by developing and marketing climate change friendly products and services. In addition, the category explores the role of different stakeholders in influencing how the company develops new product and market combinations. Finally, *the acquisition of emission credits and political activity* category is meant to understand how the company responds to the regulations, surrounding norms and cognitive forces and the level of participation in carbon offset projects and the extent to which it collaborates and negotiates with a variety of stakeholders from different sectors and backgrounds in participating in public regulation often to influence the direction of the policy

Table 3.1: An outline of the strategic options and indicators used in the content analysis (Adopted from Kolk & Pinkse, 2005)

Organisational Level	Strategic aim	
	Innovation	Compensation
Internal (company)	*Process improvement*	*GHG Accounting and Internal Transfers*
	• The company builds and develops resources to enhance its process efficiencies • The company invests in new equipment and initiatives to enhance process efficiencies and resource productivity to reduce its GHG emissions • The company has an executive board or committee responsibility to align the company's goals and its process improvement initiatives to reduce GHG emissions • The company provides incentive mechanisms for individual management of climate change issues • The company mentions concrete results of process improvement initiatives that have been achieved	• The company measures and discloses its scope 1, 2 and 3 GHG emissions • The company has specific internal emission reduction targets over a certain period of time • The company has an internal emission reduction plan to achieve the set targets • The company has a pilot project(s) to internally transfer its emissions • The company has an operational internal emission transfer scheme
Vertical (supply chain)	*Product development*	*Supply chain measures*
	• The company has a product innovation policy to develop climate friendly products and services to respond to	• The company outsources its GHG intensive activities (e.g. transportation)

	climate change • The company participates in the development of climate friendly products and services • The company has mechanisms to review its progress and status in the development of climate friendly products and services • The company participates in marketing of green/climate friendly products and services as part of its core business • The company accounts for the GHG emissions reduced from its climate friendly products and services	• The company procures its electricity from renewable energy sources • The company sets emission reduction targets for its supply chain • The company evaluates the supply chain's emission reduction performance using industry standards and certification (ISO 14001) • The company is a member of a professional/industrial association which influences its response to climate change
Horizontal (beyond supply chain)	*New product and market combinations*	*Acquisition of emission credits and political activity*
	• The company explores the possibility of partnerships in developing climate friendly products and entrance of new markets • The company has a policy and targets to participate in cross-sectoral collaborations to develop new product and market combinations • The company has concrete partnerships with private sector partners to develop new climate friendly product and market combinations (specify) • The company has concrete partnerships with public	• The company participates in carbon offset projects (e.g. CDM) • The company reports carbon credits or allowances traded • The company responds to different regulations, norms and cognitive forces related to climate change • The company has explicit political strategies/activities to

	sector partners to develop new climate friendly products and entering new markets • The company has concrete partnerships with civil society partners to develop new climate friendly products and entering new markets • The company has concrete partnerships with the private sector, public sector and civil society partners to develop new climate friendly products and entering new markets	influence climate change policy (e.g. lobbying) • The company negotiates and collaborates with its cross-sectoral partners (e.g. government, civil society) to shape climate change policy • The company has explicit strategies to influence its stakeholders' views on climate change.

Each company was given a score between 0 and 3 depending on how systematically and rigorously the indicators derived from the categories were reported on. The scoring schematic is provided in Table 3.2. The scores are a reflection of the company's diligence in public reporting on their climate change policies. A requirement of the scoring schematic is that there is relative consistency between the scores for different indicators and for different companies. To enhance the reliability of the scoring process, an inter-coder reliability test was carried out. The first scorer carried out the scoring for all the companies and a second scorer conducted the scoring for 20 per cent of the sample using the scoring system used in Table 3.2. These two sets of scores were compared to ensure inter-temporal and inter-scorer reliability (Lombard et al, 2002). The Krippendorff alpha (Hayes and Krippendorff, 2007), used to measure the degree of agreement between these scoring sets was 0.81, representing sufficient reliability (Krippendorff, 2004).

It is apparent that data derived from content analysis is based on company disclosures, not actual policies and practices. This implies that reliance on disclosure will result in missing some important initiatives by companies. Most sustainability disclosures are voluntary and unaudited which does not seem to provide enough motivation to avoid distortion of disclosures, to the extent that these disclosures reflect aspects of the company's performance (Ingram and Frazier, 1980; Weshah *et al*, 2012). For the disclosures to be useful there should be correspondence between disclosures and actual events. If external users do not perceive this correspondence, they might discount environmental disclosures (Ingram and Fraziers, 1980). There is empirical evidence which indicates that interested stakeholders such as investors would like to see environmental disclosures being independently audited because these users mistrust management and do not rely on unaudited reports (Cho *et al*, 2010; Epstein and Freedman, 1994).

Table 3.2: Scoring system used in the content analysis

Score	Criteria
0	No information about the indicator is provided
1	Basic information relevant to the indicator is provided, but there is no link to company strategy or operations
2	Information is provided about the indicator, including basic information about strategic intent and operational aspects

3	Comprehensive information is provided on the company's approach to that indicator, including strategic intent, implementation and monitoring

There has been mixed empirical evidence on the relationship between corporate environment performance and the level of disclosure (Al-Tuwaijri *et al*, 2004; Hughes *et al*, 2001; Lyon and Maxwell, 2011). For example, Hughes *et al* (2001) found out that disclosures varied between sectors and individual companies; therefore, disclosures in their current form do not fully convey the actual environmental performance level of firms. However, there is evidence that heavy polluting companies make more disclosures because they are subjected to more remediation than those companies which do not engage in environmental degradation (Clarkson *et al*, 2008; Hughes *et al*, 2001). Nevertheless, the heavy polluters make soft claims to being committed to the environment because their environmental legitimacy is being threatened (Clarkson *et al*, 2008).

Furthermore, many of the categories and indicators discussed in this content analysis may not be considered as material issues for sustainability reporting. For example, there could be a perception that investors might not be very much interested in reading information on the climate change partnerships beyond the supply chain because their focus is the internal operations and profitability of the company. In addition to this, companies might not disclose certain climate change information due to fears of free-riding by their competitors (Delmas and Keller, 2005). Therefore, to support the climate change disclosures, the study also integrates data from the Carbon Disclosure Project (CDP) in South Africa because it requests a broader array of climate change information from companies than that which is provided through company reporting. Unfortunately, the CDP is not yet active in Kenya, hence, the study primarily relied on the company disclosures and the case studies.

3.4.1 Data Analysis

To identify the different organisational configurations of business responses to climate change in Kenya and South Africa, cluster analysis is carried out using SPSS software. The clustering process is used to identify "any multidimensional constellations of conceptually distinct characteristics that commonly occur together" (Meyer *et* al, 1993: 1175). The configurational approach in this study took an inductive; empirically based approach in that the "causality flows from the empirical manifestations to the construct" (Fiss, 2009: 419). This gives the researcher the opportunity to refine

the preliminary model from the literature review, nevertheless, with a strong focus on climate change mitigation.

The cluster analysis was conducted in two stages: first, a hierarchical clustering procedure was applied to determine the appropriate number of clusters and in the second step; the clustering was re-run with only a chosen optimum number of clusters in which to place all the cases. Using the SPSS software, the hierarchical clustering in the first stage, used a *Ward Method* applying *Squared Euclidean Distance* as the distance or similarity measure to determine the optimum number of clusters that fit the content analysis data. This process starts with each case as a separate cluster, that is, there are as many clusters as cases, and then combines the clusters sequentially, reducing the number of clusters at each step until only one cluster is left. The clustering method uses the distances between data points in terms of the specified variables. The *Ward Method* is used to get some sense of the possible number of clusters.

The second stage of the cluster analysis involved carrying out a k-means cluster analysis with the selected number of clusters which enabled every company to be allocated to a particular cluster. Appendix 1a, 1b and 1c illustrate the tables showing the final cluster centers for each of the 32 variables/indicators for the three data samples. The mean values of the final clusters for each of the six strategic options in table 3.1 were then calculated using the cluster centers of the variables/indicators. The final clusters centers and graphs for the combined data sample, South Africa and Kenya samples are presented in figures 4.1; 4.2 and 4.3, respectively in chapter 4.

3.5 Case study approach

As highlighted in the mixed methods section above, the case study approach was utilised to further investigate the major themes emerging from the content analysis. Therefore, the case study approach complements the survey by investigating how and why companies in South Africa and Kenya, countries with varying levels of limited statehood contribute to climate change. This complementary role is very useful in developing final conceptual discussions and conclusions because case studies are frequently used in theory building research (Edmondson and McManus, 2007; Eisenhardt, 1989, Eisenhardt and Graebner, 2007).

To develop theory that is empirically grounded, the case study utilised an analytic inductive methodology as it accommodates existing theories (Bansal and Roth, 2000; Glaser and Strauss, 1967; Manning, 1982). Using this approach, the researcher went back and forth between data collection and theory generation, beginning with a review of literature to develop a preliminary model which

was further refined by the content analysis survey to show the emerging climate governance contributions (see figure 3.2). The case study reviewed the emerging governance contributions from the content analysis to develop the final arguments on how and why companies in areas of limited statehood contribute to climate change governance.

3.5.1 Sampling of case study companies

According to Eisenhardt (1989) if the purpose of the research is to build theory, then theoretical sampling is appropriate. This means that cases are selected because they are particularly "suitable for illuminating and extending relationships and logic among constructs" (Eisenhardt and Graebner, 2007: 27). As a result, the eighteen case study companies were selected in both South Africa and Kenya from three different sectors (banking and finance; food and drink manufacturing and heavy industrials and allied) (see table 3.3). Selecting different sectors allows the researcher to identify patterns within and across sectors.

Firstly, due to different sectoral institutions firms in different sectors are most likely to have varying contributions to climate change. Research (for example, Kell and Ruggie, 1999; Meuller-Debus *et al,* 2009) indicates that sectors which have strong associative structures and memberships are more likely to support firms in those sectors in self-regulation. On the other hand, sectors with low associative structures and memberships are not expected to extensively engage in self-regulation. For example, in South Africa, the food and drink manufacturing sector is characterised by "a large number of firms of different sizes, a high degree of market fragmentation and weak associative structure across the different sub-sectors" (Hönke *et al*, 2008: 17). As a result, many firms, particularly, the smaller firms are not expected to have extensive climate change contributions because they do not have the sectoral support. Furthermore, due to the fact that climate change and other related problems such as energy supply are salient among large and energy intensive heavy industrials firms, they are likely to engage in climate change governance. Therefore, this sampling strategy enabled comparisons that clarified whether an emergent finding is simply "idiosyncratic"to a single case or consistently replicated by several cases (Eisenhardt, 1991).

In addition to the sectoral variation, companies' climate change actions could vary between companies within certain sectors. This variation often occurs between multinationals, large listed companies and smaller companies which are often not listed and have mostly local operations (Kolk and Pinkse, 2004; Pinkse and Kolk, 2009). Multinationals and large companies, particularly, the

manufacturing sector has more extensive operations crossing national boundaries often resulting in significant negative externalities from the GHG emission (Kolk and Pinkse, 2009). Therefore, they are most likely to face more external pressure from regulators and civic organisations to contribute to the governance of climate change. Furthermore, these large corporations are more visible than smaller companies which tend to increase their reputational risks. In contrast, smaller and non-listed companies do not have resource intensive operations which cause high negative environmental externalities. As a result, they do not have any institutional pressures to contribute to climate change governance. Thus, the three companies in each sector in each country were selected based on the following criteria: (i) dual listed (multinational); (ii) large company listed on the national stock exchange (that is, Johannesburg Stock Exchange (JSE) or Nairobi Stock Exchange (NSE) (iii) small-medium non-listed company with national operations. This sampling strategy usually identifies extreme cases which helps the researcher observe contrasting patterns in the data (Eisenhardt, 1989).

Table 3.3: Case study companies in Kenya and South Africa (based on sector and firm size)

Sector	South Africa	Kenya
Banking and finance	Standard Bank	Standard Chartered
	Nedbank	Kenya Commercial Bank
	Capitec	Family Bank
Food and drink manufacturing	Unilever	Unilever
	Illovo Sugar	Mumias Sugar Co
	Orley Foods	Kuguru Foods Complex Foods
Heavy industrials and allied	Sasol	Total Kenya
	Pretoria Portland Cement	Athi River Mining
	Devra chemicals	PZ Cussons

The theoretical sampling strategy also provides opportunities to carry out a comparative analysis of climate change strategies of companies that experience different institutional pressures. For example, Unilever was selected as a case study company in both countries so as to compare how the

company's strategies are influenced by the country variation in the different climate change institutional processes and organisational fields in South Africa and Kenya.

3.5.1.1 Banking and finance sector

Among the three sectors selected, the banking and financial sector is the least carbon intensive, but probably one of the most important sectors with regard to financing climate change initiatives. Furthermore, the sector is one of the most crucial sectors to the continent's economy. Its significance can be assessed in terms of the size of their assets which are predominantly loans and advances to the private non-bank and government sectors. PwC (2012) reported that the total banking assets as a percentage of GDP for South Africa and Kenya was 106% and 51%, respectively.

With the exception of Family bank which is a private bank, all the other selected banking firms are publicly listed banks which means the shares to the company are owned by investors (shareholders) and decisions are made by a board appointed by the shareholders (see table 3.4). The public listed companies are able to raise funds and capital through the sale of their securities as debt or equity. Therefore, public listed banks have more capital which could be used to invest in renewable energy. The ownership structure of the publicly listed banks entails that they are compelled to disclose more information about their operations, which could include their lending practices to carbon intensive companies. Whilst some of these disclosures are not public, it means shareholders have enough information in their decision making process (Kolk, 2004).

Table 3.4: Characteristics of the selected banking and finance firms

Company	Ownership	Operations	Listings	Number of employees	Market cap (US$)	Total Assets (US$)	Products/services
South African companies							
Standard Bank	public	Regional (Africa)	JSE, Namibian Stock Exchange	53 350	24 billion	201.9billion	Commercial banking, Investment banking, Investment management
Nedbank	Public	South Africa, Namibia	JSE	22 416	12 billion	73 billion	Commercial banking, Investment banking, Investment management

Capitec bank	Public	South Africa	JSE	7 194	2.8billion	3.1billion	Retail banking
Kenyan companies							
Standard Chartered Bank	Public	Global	LSE, SEHK, NSE	86 865	65billion	624 billion	Consumer banking, corporate banking, investment banking, mortgage loans, private banking, wealth management
Kenya Commercial Bank	Public	East Africa	NSE	5 492	1.25billion	4.2billion	Retail banking, corporate banking, loans
Family Bank	Private	Kenya	-	1 003	80million	317.7million	Retail banking, loans

As outlined in table 3.4, South African banks have more assets and their shares have more value than Kenyan banks. It is usually assumed that banks with higher share values have more liquidity which allows them to make more investments (Naidoo, 2009; Smith, 2007). This presents them with opportunities to participate in the renewable energy market through private equity, fund investments, underwriting of initial public offerings, debt offerings and ownership of green companies (Cogan, 2008). Furthermore, South African banks provide more corporate banking services which means that they have more potential to influence their carbon intensive customers through their lending policies. The size of the bank also determines their level of influence and comprehensiveness of their climate change strategies, for example Standard Chartered Bank in Kenya is a multinational bank with over 90 000 employees and operations in over 70 countries across the globe. This exposes them to more institutional pressures to respond to climate change either through listings such as the Dow Jones Sustainability Index or NGO pressure (Hamann *et al*, 2009; Missbach, 2004; Spar and Mure, 2003). On the other hand, a privately owned bank such as Family Bank in Kenya with only 1000 employees does not have any external pressure to respond to climate change.

3.5.1.2 Food and drink manufacturing sector

The food and drink manufacturing sector is intrinsically linked with the agricultural and retailing sector, therefore, it tends to have a high GHG emission factor (Hönke *et al,* 2008). With the commodification and industrialization of food production in recent decades, the impact of these production processes on natural resources such as water has been substantial (Hönke *et al*, 2008). More so, the diversified nature of the industry with includes a variety of crops and products entails that it has a higher climatic and environmental impact (table 3.5).

Table 3.5: Characteristics of the selected food and drink manufacturing sector

Company	Ownership	Operations	Listings	Number of employees	Market cap (US$)	Total Assets (US$)	Products
South African companies							
Unilever	Public	Global	Euronext, UNA, LSE, NYSE	171 000	118.2billion	61billion	Foods, beverages, cleaning agents, personal care products
Illovo Sugar	Public	Regional (Africa)	JSE	5 400	1.5billion	1.28billion	Sugar, sugar marketing
Orley Foods	Private (family owned)	South Africa	-	300	-	-	Confectionary products
Kenyan companies							
Unilever	Public	Global	Euronext, UNA, LSE, NYSE	171 000	118.2billion	61billion	Foods, beverages, cleaning agents, personal care products
Mumias Sugar	Public	Kenya	NSE	1 500	90 million	320million	Sugar, sugar marketing
Kuguru Food Complex	Private	Kenya	-	800	3.2million	-	beverages

Foreign wholly owned subsidiaries tend to dominate the food and drink manufacturing sector in Africa and seem to respond to broader head office visions with regard to environmental issues such as climate change (Fig, 2007). In South Africa, the sector contributes 3.2% to the GDP, making it the

third largest contributor to GDP after chemicals and metals (DTI, 2012). However, only ten companies of the 4000 companies in the sector account for 70% of the industry's turnover (STASSA, 2012). This leaves a lot of pressure on the few dominant companies to respond to climate change, leaving out the majority of small-medium enterprises (Fig, 2007). With the exception of Unilever, many of the case study companies have slightly lower share value and assets. This could imply that many of these national and local companies do not have adequate capital to invest in process improvement or other substantial climate change initiatives.

3.5.1.3 Industrial and allied

Over the past two decades, the industry and allied sector in Africa has experienced a considerable decline as compared to the tertiary or services sector contributing only 15% and 10% to the GDP in South Africa and Kenya respectively (PwC, 2012). However, in South Africa it remains the third largest sector by gross value of production (18%) after metals (23%) and petrol refining (20%) (STATSSA, 2012). The nature of the products which are produced by this sector entails that these companies are carbon intensive (table 3.6). This tends to attract a lot of external pressure from civil society and regulators (Kolk and Levy, 2004).

Table 3.6: Characteristics of the selected industrial and allied firms

Company	Ownership	Operations	Listings	Number of employees	Market cap (US$)	Total Assets (US$)	Products
South African companies							
Sasol	Public	Global	NYSE, JSE	34 000	29billion	24billion	Oil & gas exploration and production, chemicals production
Pretoria Portland Cement (PPC)	Public	Regional	JSE	3 087	2.3billion	900million	Cement production
Devra Chemicals	Private	South Africa	-	100			Chemicals, detergents, soaps
Kenyan companies							
Total	Public	Global	Euronex , NYSE	96 104	117billion	218 billion	Oil & gas exploration and production,

							natural gas transportation, oil refining
Athi River Mining	Public	Regional (Kenya, Tanzania, South Africa)	NSE	5 000	3.7billion	1.9billion	Cement manufacturing
PZ Cussons Kenya	private	local	-	250	-	-	Imperial Leather, soaps, shampoo, detergents, healthcare products

Dual-listed multinational companies such as Sasol and Total face more regulatory pressures in different countries they operate in, for example the EU Emissions Trading System. Furthermore, the nature of their businesses, particularly the multinational energy firms, provides for high turnovers and share price values resulting in high levels of liquidity (see table 3.6). The high level of liquidity provides these companies with more capital, hence, more investment options in developing comprehensive climate change strategies. On the other hand, privately owned and non-listed manufacturing firms such as Devra Chemicals have a low asset base which does not allow them make meaningful investments in climate change.

3.6 Data Collection

3.6.1 Interviews

To obtain information that is broad and deep enough to ensure a rich accumulation of data from which to draw inferences, the case study approach used in-depth interviews. Structured and semi-structured interviews were conducted with individuals within the companies who are responsible for developing and implementing the climate change strategies. In South Africa, due to pressures to address corporate sustainability issues (Arya and Bassi, 2011; Hamann *et* al, 2009; Idemudia, 2011), many companies have corporate sustainability managers who are responsible for implementing and communicating the company's sustainability strategy. Hence, in South Africa most of the interviews were carried out with these sustainability managers (see Appendix 2 for a list of all the respondents). However, there are other senior managers and other individuals in influential strategy positions who influence implementation of a company's climate change strategy. These individuals were also interviewed were possible, particularly, for Devra Chemicals, Orley Foods and Capitec bank which

do not have sustainability managers, for example, at Capitec bank, in depth interviews were carried out with the marketing manager. In Kenya, the private sector has been slow in adopting sustainability issues; therefore, mostly multinational companies have sustainability managers. As a result, most of the interviews with the case study companies were conducted with individuals in senior management and strategy departments who at times are not very familiar with certain sustainability issues, for example, at Family Bank, interviews were carried out with a lawyer and an economist.

In addition to the respondents within companies, the researcher also interviewed consultants, government officials, academics and industry organisation representatives who are knowledgeable about the companies' climate change activities. The advanced nature of the corporate sustainability and climate change discipline in South Africa meant that there were more respondents in South Africa than Kenya (see Appendix 2).

Identifying interviewees was not a structured or systematic process. Many of the individuals or organisations were known to the researcher through a review of internet material and personal and work networks. When l was carrying out my initial interviews, some of my respondents referred me to other interviewees which allowed for snowball sampling (Flick, 2002). Furthermore, some relevant contacts were made through personal contacts. For instance, when l was in Kenya, one of the ladies l was staying with had a brother who was a strategy manager at Standard Chartered Bank. When l met the strategy manager at a church service he gave me the contact details of the corporate governance manager responsible for sustainability issues at the bank. I was also able to meet a lot contacts by attending conferences and workshops. For instance, the Energy Efficiency Awards in Nairobi, Kenya, is an important occasion to meet individuals both in the private sector and civil society who are working on climate change.

Unstructured and semi-structured interviews were utilised as both entail a level of flexibility, informality and openness (Myers and Neuman, 2007). The semi-structured interviews were valuable to explore facts, behaviour, and beliefs or attitudes, as a means of seeking to understand how and why the companies respond to climate change (Bryman, 1988; Robson, 2002). The interviews were mostly open-ended questions guided by key themes of the researcher derived from the emerging themes which came out of the content analysis. A total of 57 interviews were carried out in both countries; 34 in South Africa and 23 in Kenya lasting between 45 minutes and two hours (table 3a and b). Prior to the interviews, interviewees were informed about the objectives of the research and research questions through email communication. This allowed the interviewees to prepare for the

interview, in some instances gathering valuable data, for example, company reports and analyses which was valuable for the researcher. With regard to respondents within the companies, the researcher kept the initial conversations broad in scope in an effort to expose a wide range of motivations and guiding themes (Bansal and Roth, 2000). The researcher started each interview by asking what the company was doing to respond to climate change and then asked the respondent to trace the history of each initiative he/she mentioned and explain why the initiative was adopted (Bansal and Roth, 2000). In cases were more than one respondent was interviewed in a company, the issues raised by one respondent were further discussed with other respondents as this helped in building internal validity (Eisenhadrt, 1989). Interviewees were also asked about the relationship with other stakeholders and other aspects of the company's structure and operations which could have a bearing on the company's climate change strategy. As the discussion went on, other questions relating to the research were presented to the respondent.

Table 3.7a: List of formal interviews in South Africa

Organisation	**Number of interviewees**
Standard Bank	2
Nedbank	3
Capitec Bank	1
Unilever	3
Illovo Sugar	1
Orley Foods	1
Sasol	2
Pretoria Portland Cement	1
Devra Chemicals	1
Total	**14**
Respondents outside the companies	
Consultants	8
Academia	4
Industry Association	4
Government	3

Other	4
Sub-total	*23*
TOTAL	**37**

Table 3.7b: List of formal interviews in Kenya

Organisation	**Number of interviewees**
Standard Chartered	2
Kenya Commercial Bank	1
Family Bank	1
Unilever	2
Mumias Sugar Co	2
Kuguru Foods Complex Foods	1
Total Kenya	1
Athi River Mine	2
PZ Cussons	1
Sub-total	**13**
Respondents outside the companies	
Consultants	2
Academia	1
Industry Associations	6
Government	2
Sub-total	*13*
TOTAL	**26**

The interview protocol for respondents outside the firm was similar to that of interviewees within the companies. The only difference was the questions which were asked. The researcher started by informing the respondent the case study companies in the study. Then the interviewee was asked

how they would characterise the climate change responses of these companies, that is, companies or sectors they have knowledge about. Initially, the interview questions were broad, but as the discussions went on, we focused on specific issues which the respondent was more informed about, for example, the interview with a government official at the Energy Regulatory Commission (ERC) in Kenya focused on the regulatory and institutional processes in Kenya and how they were influencing companies' climate change actions.

In addition to the formal interviewees, an important source of information was informal (unstructured) interviews with various informants in the form of discussions during workshops and conferences, telephone conversations and email conversations. As the research progressed, these informal interactions were very helpful in refining some of the emerging research findings. For example, the configurations from the content analysis survey were continually refined through these informal interactions. During these interactions l would outline my research aim to the respondent or present to them my preliminary findings and we would discuss these findings. In most instances, l would make a transcript of these conversations.

3.6.2 Carbon Disclosure Project reports

In addition to the interviews, the Carbon Disclosure Project reports for South Africa from 2007 to 2012 were reviewed. Since its inception in South Africa in 2007, every year the CDP sends a questionnaire to the top 100 companies listed of the Johannesburg stock exchange asking them to measure and disclose what climate change means for the business (CDP SA, 2012). The data from the questionnaire responses in analysed and compiled into the CDP report by Incite Sustainability, a consulting firm based in Cape Town, South Africa, in partnership with the National Business Initiative (NBI).

The information from the CDP report served to complement data from the interviews. The CDP report provides valuable contextual information on how and why different sectors and companies in South Africa are responding to climate change. In addition to this, the CDP uses the disclosed information to rank companies on the levels of performance and disclosure. It is a daunting task to measure and validate the performance of companies by relying solely on the disclosed information. The CDP acknowledges this challenge and addresses it in the report:

> "In assessing the companies that have qualified for the CDLI [Carbon Disclosure Leadership Index] it is important to note that the scoring is based solely on the information disclosed in the company's CDP response, it does not consider other carbon or wider sustainability disclosures provided by the companies through their sustainability reports, annual reports or through meetings and engagements with stakeholders and policymakers. While a high

> CDLI score is an indication of the company's transparency and accountability, it is not a metric of a company's performance in relation to climate change management. The scoring makes no judgement over absolute levels of emissions, emission reduction achievements or carbon intensity…….The performance scores for the CDPLI [Carbon Performance Leadership Index] provides an indication of the extent to which companies are addressing the potential opportunities and risks presented by climate change. It is important for investors to keep in mind that the carbon performance band simply recognises evidence of action. The CDPLI is not a measure of how "low carbon" a company is, nor does it provide an assessment of the extent to which a company's actions have reduced its intensity relative to other companies in the sector…… [However], the results are seen to be sufficiently robust to provide an indication of those companies leading the way" (CDP SA, 2012: 32-33).

To analyse the information in the CDP report, the researcher firstly read the executive summary to understand the general response rate of the respondents and the main climate change issues the companies are focusing on in their response. After that, I went on to read and evaluate sections with responses from the sectors that this research focuses on (that is, financials, consumer discretionary and energy and materials). An understanding of the sectoral context in which each company operates enhanced the assessment of company disclosure and performance and facilitated a more meaningful comparison between companies (CDP SA, 2012). These sector analysis snapshots contain the following:

> "• A brief analysis of the broad implications of climate change for that sector (this analysis reflects the judgement of the authors of this report, and not the responses of the companies).
> • A summary of the key risks and opportunities reported by the companies (this reflects what the companies reported and is not intended to be a detailed account of the actual sectoral risks and opportunities).
> • The CDP sectoral response rate over the past four years.
> • A breakdown of the sectoral disclosure scores by questionnaire section, comparing the sector against the JSE 100 average and the CDLI.
> • A graphical representation of individual company disclosure scores and performance bands
> • A brief review of the scope 3 categories reported within the sector.
> • A summary of the company response type, emissions data (scope 1 South Africa, scope 1 Global, scope 2 Global and emissions intensity) and information on targets and verification" (CDP SA, 2012; 38).

The researcher then summarised this information with data from the interviews providing some complementarity using quotes from the respondents. Since Kenya does not participate in the CDP, chapter five which presents the findings from South Africa only integrates the CDP responses.

3.6 Case study data analysis

Analysing data is the heart of building theory from case studies, but it is the most difficult and the least codifies part of the process (Eisenhardt, 1989). Even though it is difficult to account for every detail of the process how a researcher got from several hundred pages of field notes to the final

conclusions, several key features of the analysis can be identified (Eisenhardt, 1989; Miles and Huberman, 1984). The analysis of the case study companies was done separately for each country. The first stage of this process was within-case study analysis which involved analysing data generated from interviews for each of the three sectors. This analysis was carried out to further complement and rectify the refined preliminary model developed after the content analysis survey. The within-case study analysis involved detailed write ups describing the climate change activities and drivers for each of the companies in each sector. This process enables the researcher to be familiar with each case as a stand-alone entity and develop unique patterns of each case to emerge before generalising patterns across sectors (Eisenhardt, 1989). In the write up process for each company, l had to identify patterns of the climate change activities and drivers through the process of coding. Coding represents "the operations by which data are broken down, conceptualised and put back together in new ways" (Strauss and Corbin, 1990: 57). To respond to the first research question of how each company is responding to climate change, l developed three tables, with table one and two describing the company's mitigation and adaptation strategies, respectively. The third table described the company's political activities to influence climate change policy. A forth table was developed describing the drivers to these responses. These thematic responses and drivers were continually related to the conceptual framework in the chapter two and the refined conceptual model from the content analysis survey.

The second stage of the analysis was the search for cross-case patterns which involved identifying similarities and differences within the companies in each sector and across sectors. This was done by selecting different types activities (for example, mitigation) and then look for similarities and differences within each sector. This resulted in a categorised set of climate change activities and drivers for each sector. These categories were then compared within the different sectors. With continual reference to the preliminary model and the refined preliminary model, l was able to identify specific activities which were recognisable with low carbon emitters and those recognisable with high carbon emitters. For example, it emerged that Kenyan companies in the industrial and allied and food and drink manufacturing sectors mainly adopt energy efficiency initiatives. Various anecdotes, perceptions and other pieces of information were hence grouped and conceptually linked to develop and consistent theoretical explanations of how and why these two sectors in Kenya are predominantly adopting energy efficiency initiatives. These conceptual linkages were tested with the refined conceptual model from content analysis survey and other existing data transcripts in order to check for consistency.

This stage of the thesis was an iterative process, with the researcher continuously going back and forth between data collection and data analysis to continually test and further develops the concepts (Flick, 2002). To help with refining the concepts emerging from the data, I presented the preliminary conceptual outputs of the research at international conferences and workshops (Box 3.1 list some of the papers that were presented at conferences and workshops and received comments from various participants).

As the iterative process of within-company analysis and cross-sectoral comparison continued, tentative themes, concepts and possibility even relationships between variables between the two countries began to emerge (Eisenhardt, 1989). This process continued until theoretical saturation was reached ("Theoretical saturation is simply the point at which incremental learning is minimal because the researchers are observing phenomena seen before" Glaser and Strauss, 1967: quoted in Eisenhardt, 1989: 545). The output from this process was a final conceptual framework which explains how and why companies respond to climate change in areas of limited statehood.

Box 3.1: Various research outputs leading to the thesis

Hamann R, Borzel T; Kapfudzaruwa F, Kranz N (2012) Business Contributions to Climate Change Governance in Areas of Limited Statehood. In Proceedings *The Informal Sector*, Academy of Management conference, Boston, August

Kapfudzaruwa F (2012) Business Responses to Climate Change in areas of Limited Statehood: An outline of the Organisational Configurations in Kenya and South Africa. In Proceedings International Studies Association conference "*Power, Principles and Participation in the Global Information Age* ".San Diego, California, April 1-4.

Kapfudzaruwa F (2011) Climate Change as a Driver for Innovation: Exploring the Corporate Strategies in Kenya and South Africa. In Proceedings *The Business of Social and Environmental Innovation.* Graduate School of Business, University of Cape Town, South Africa. 14-16 November.

Kapfudzaruwa F (2011) Business Responses to Climate Change in Africa: An outline of the Organisational Configurations. In Proceedings Academy of Management conference "*West Meets East: Enlightening, Balancing and Transcending*". San Antonio, Texas, August 12-16.

Kapfudzaruwa F (2010) The Governance of Climate Change: The Role of Business in Africa. Presented at 2nd UNITAR Conference on Environmental Governance and Democracy: "*Strengthening Institutions to Address Climate Change and Advance a Green Economy*". Yale University, New Haven, Connecticut, September 17-19.

Hamann R, Kapfudzaruwa F and Fay J (2009) The Insurance Industry and Climate Change: Exploring the Emerging Strategies in South Africa. Proceedings of the *Ecocentric Journey* Conference. 15-17

CHAPTER FOUR
ORGANISATIONAL CONFIGURATIONS FOR DESCRIBING CORPORATE GOVERNANCE CONTRIBUTIONS TO CLIMATE CHANGE

4.1 Introduction

This chapter presents the organisational configurations which can be used to categorise corporate governance contributions to climate change in South Africa and Kenya. These results are based on the content analysis survey of company reports of the 45 listed companies on the Nairobi Stock Exchange in Kenya and the top 100 companies listed on the Johannesburg Stock Exchange in South Africa. The case study interviews are used to substantiate the findings from the survey. Kolk and Pinkse's (2005) typology discussed in figure 2.1 of chapter two was adopted in the data generation process of this content analysis survey.

4.2 The main climate change configurations in South Africa and Kenya

The results of the cluster analysis are shown in Figures 4.1, 4.2 and 4.3, which summarise the mean values of the final cluster centres for the six categories used. The results show that four different strategy configurations for climate change can be identified in South Africa (*visionaries, efficiency drivers, emergent planners* and *laggards*), while in Kenya three clusters emerged (*efficiency drivers, emergent planners* and *laggards*). The '*visionaries*' are the companies, mostly large multinationals which have understood the risks and opportunities presented by climate change. Therefore, they are engaging in private self-regulation internally and collective self-regulation within the supply chain and through collaboration with relevant stakeholders. The '*efficiency drivers*' involves companies which internally implement the set energy effiency standards and guidelines agreed upon mostly through co-regulation in the form the Energy Efficiency Accord (EEA). This cluster is mostly occupied by energy intensive sectors. The '*emergent planners*' are those companies that are starting to explore different climate governance contributions, while the

'*laggards*' do not respond to climate change or adopt cosmetic initiatives to contribute to climate change governance.

Even though the clusters in both countries use the same labels for the three identical clusters in the country specific analysis, they cannot be compared directly because, as illustrated in Figures 4.2 and 4.3, the characteristics of the clusters are often not the same in the two countries. In addition, the Kenyan sample dominates the companies that are non-responsive to climate change, while the South African sample dominates the responsive companies. This suggests that, in addition to other organisational and institutional factors discussed below, South African companies are gradually starting to respond to the slow introduction of policies that address threats of climate change in the country. On the other hand, the absence of a credible threat of a shadow of hierarchy could imply that the state is not capable or willing to steer the private sector to contribute to climate change governance. More so, evidence from the research indicates that even though some parts of Kenya are going to be severely affected by climate change, the discourse on the issue within the private sector and general public is not far reaching as the case in South Africa.

In addition to these country differences, the results also reveal in-country differences along sectors. Due to the varying sectoral institutions and issue salience, the energy intensive sector in South Africa, for example, is more responsive to climate change than the banking sector because climate change directly affects their operations and manufacturing companies are surrounded by institutions within their industry associations, which will tend to influence them to become energy efficient. Finally, within the sectors, multinationals and large listed companies have more extensive governance contributions than smaller firms. For example, in the retail sector, Woolworths is an industry leader with its climate change mitigation and adaptation contributions because of its asset-specific relationship with its supply chain and company specific capabilities and culture which are less prominent in other retailers. In the following sections, each of the clusters will be discussed in more detail.

4.2.1 Laggards

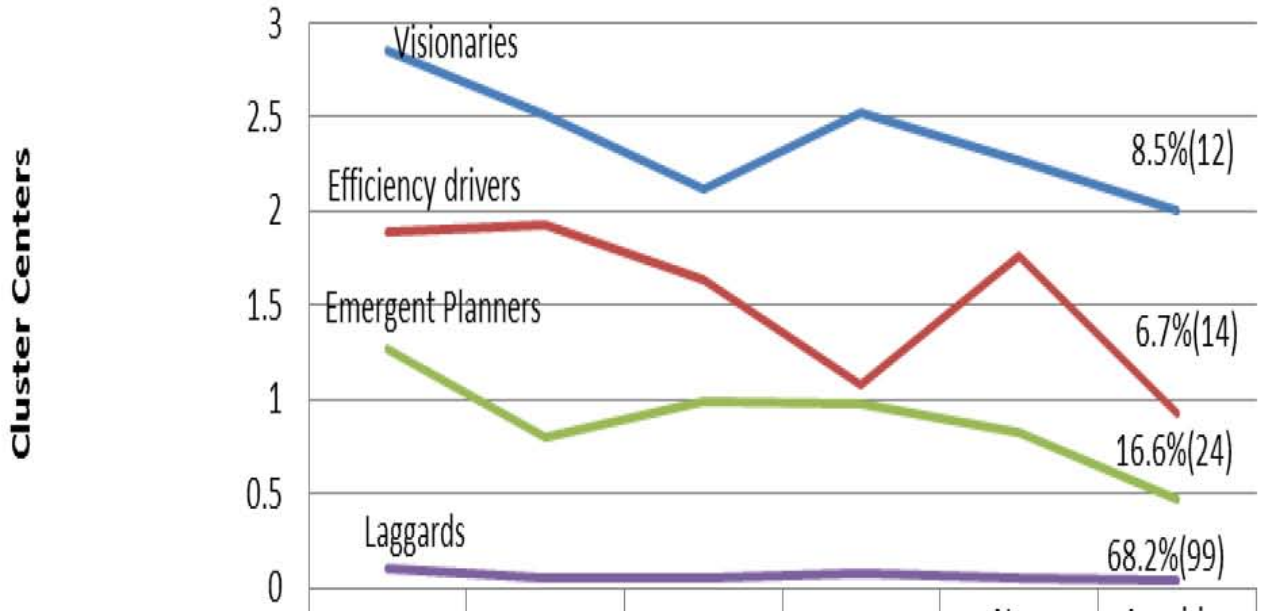
The '*laggards*' represent the largest proportion (68 per cent) of companies in both countries, indicating that a large proportion of the private sector, particularly in Kenya is still struggling to participate in climate change governance. As shown in Figure 4.2 and 4.3, a larger proportion (84 per cent) of the Kenyan sampled companies belongs to this cluster compared to the South African

sample (61 per cent). The companies in this cluster have very low scores (below 0.5) on all the indicators in both countries. Therefore, they share the same attributes. These low scores indicate that these companies do not have any specific private or collective self-regulatory mitigation or adaptation initiatives.

Companies in this cluster include Kenya Commercial Bank, Access Kenya, Datatec (Kenya) and Tiger Brands in South Africa (see Table 4.1 for a summary of the companies' strategies). Many Kenyan companies, particularly those in the commercial and services sector, focus on "green washing" collective efforts such as planting trees as their main contribution to climate change governance. This is mostly driven by the logic of appropriateness, as the companies attempt to avert negative attention from local communities which expect them "to do something good for the community". According to the Governor of Siaya County "the government is unable to absorb the huge number of unemployed youths into the county so we expect the private sector to play a part. This project with KB is a sign that companies can do something for the community".

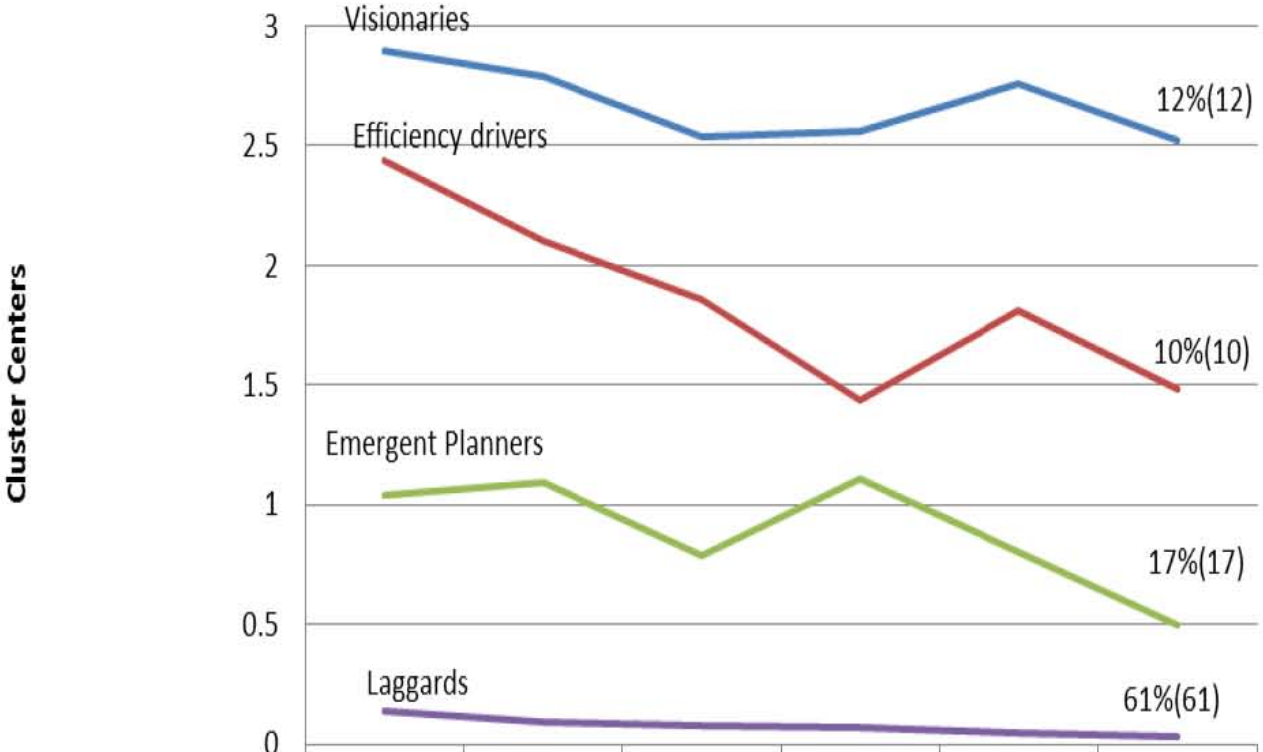
These tree planting activities are normally implemented in collaboration with civic groups because these groups enhance the legitimacy and reputation of these companies in the society. As a result, the companies will collaborate with reputable civic groups. In Kenya, the United Nations Environmental Program sets the implicit "rules" by providing guidelines on tree planting as part of the "Billion Tree Campaign". In response, the private sector signs pledges on the number of trees they will commit to plant. Even though these are intentional efforts by the private sector, tree planting does not form a fundamental climate change contribution by these companies, particularly, the banking sector because they could use their resources and capabilities in trading to develop more comprehensive contributions such as carbon trading or innovative financing towards tackling climate change. While afforestation assists in increasing the carbon sink, which absorbs GHGs, it does not help the companies reduce their direct scope 1(direct) and 2 (indirect) emissions; hence they had low scores in all the indicators. Despite this, the state still acknowledges these initiatives through the participation of government officials at these tree planting events. For example, Siaya County governor supported Kenya Commercial Bank tree planting project.

Figure 4.1: Cluster Centers for Strategic Climate Change Configurations in South Africa & Kenya



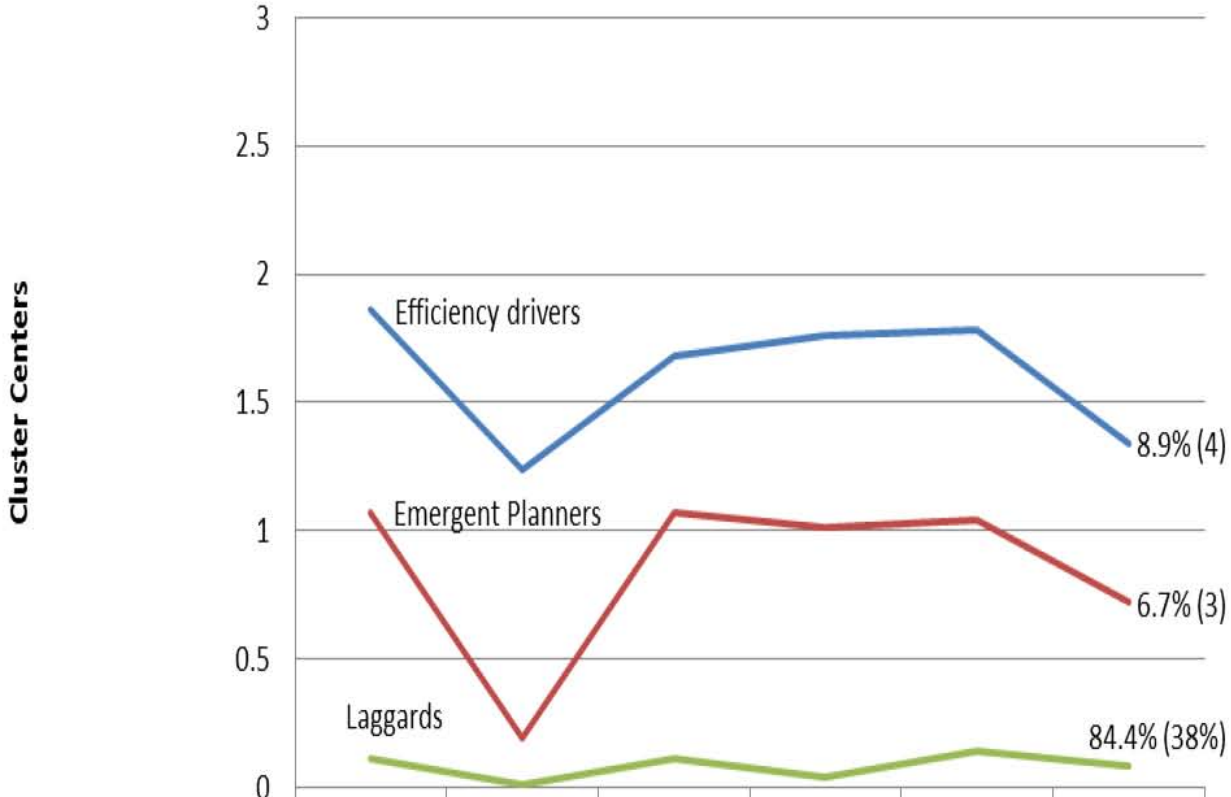
	Process Improvement	GHG Accounting	Product Development	Supply Chain Measures	New Product & Market Combinations	Acquiring Emission Credits & Polictical Activity
Visionaries	2.86	2.51	2.12	2.53	2.27	2.01
Efficiency drivers	1.89	1.92	1.64	1.08	1.76	0.93
Emergent Planners	1.27	.80	0.99	.98	.82	.47
Laggards	.10	.05	.06	.07	.05	.03

Figure 4.2: Cluster Centers for Strategic Climate Change Configurations in South Africa



	Process Improvement	GHG Accounting	Product Development	Supply Chain Measures	New Product & Market Combinations	Emission Credits & Political Activity
Visionaries	2.9	2.79	2.54	2.56	2.76	2.52
Efficicency drivers	2.44	2.1	1.86	1.44	1.81	1.48
Emergent Planners	1.04	1.09	0.79	1.11	0.8	0.5
Laggards	0.14	0.09	0.08	0.07	0.05	0.03

Figure 4.3: Cluster Centers for Strategic Climate Change Configurations in Kenya



	Process Improvement	GHG Accounting	Product Development	Supply Chain Measures	New Product & Market Combinations	Emission Credits & Political Activity
Efficiency drivers	1.86	1.24	1.68	1.76	1.78	1.34
Emergent Planners	1.07	0.19	1.07	1.01	1.04	0.72
Laggards	0.11	0.01	0.11	0.04	0.14	0.08

In Kenya, the absence of both a shadow of hierarchy and anarchy related to climate change acts as a constraint for companies in this cluster not contributing to climate change governance. The state's regulative focus is on pro-growth policies, which do not adequately integrate climate change, for example, Vision 2030 which is the blueprint of Kenya's socio-economic development. These pro-growth policies are sending 'misaligned incentives to a majority of companies operating in Kenya' (Kivuiti, interview). As a result, many companies, particularly, the less energy intensive companies in the financial and services and information technology industries which represent most companies in the Kenya sample do not have incentives to tackle climate change. This explains the fact that less energy intensive sectors which do not have sectoral institutions to influence companies to contribute to climate change governance are unlikely to be responsive to climate change. Climate change is not a salient issue in the financial and services industries, hence, business associations in these industries are unlikely to engage the companies in any collective regulatory schemes.

In addition, the alignment challenges within the bureaucracy, resulting in inherent conflicts between the fragmented government agencies and the absence of external pressure from different actors such as civil society results in inaction on climate change issues (Marguis *et al*, 2012). Furthermore, whilst many arid and semi arid communities in south-eastern Kenya continually face the risks of drought and food insecurity linked to climate change, many of the laggards in less carbon intensive sectors do not face the danger of not having a common good at all. Their profitability or strategic operations are not directly linked to a stable climate. Therefore, these laggards do not have any direct incentive to contribute to the governance of climate change.

In South Africa, through the white paper on the National Climate Change Response Strategy and the introduction of carbon tax in the 2013/14 financial year by treasury, the state is showing its ability to enforce binding decisions on the private sector. However, the shadow of hierarchy linked to these regulations targets the energy intensive companies. This means that the less polluting industries, particularly the financial services, IT and consumer services which constitute the majority of companies in this cluster, do not face any direct threats of regulation. This is shown by the absence of many South African financial services firms in the carbon trading markets such as the Clean Development Mechanisms (CDM). Companies in this cluster such as Access Kenya and Tiger Brands, which recognise climate change as an emerging strategic issue for them avoid implementing any concrete strategies to respond to the issue, but rather adopt cosmetic initiatives.

4.2.2 Emergent planners

This cluster consists of companies that have recognised the risks and opportunities that climate change presents to their operations. In South Africa, these contributions are mostly driven by the shadow of hierarchy whilst in Kenya they are mostly driven by the shadow of anarchy. Therefore, they have put targets in place and are in the early phases of comprehensively developing internal firm self regulatory strategies. In both countries, companies in this cluster had a moderately low score, between 1.3 and 0.5, which indicates that they are in the initial phases of their self-regulatory contributions. As emergent planners these companies first focus on their internal competences in the self-regulation. For example, South African companies such as Group Five, a construction company are attempting to internalize the negative externalities from the emission of GHGs by advancing technologies which produce renewable energy. In Kenya the cluster has a very low score of 0.19 on *GHG accounting and transfers.* Nonetheless, the companies have started to conduct their own practises which do not rely on any agreed rules or guidelines, for example, BOC Kenya is attempting to borrow hydrogen technologies from its parent company the Linde Group. As emergent planners these companies have not yet expanded their developing internal activities into collective self regulatory contributions such as partnering with their industry associations. As alluded to by one the respondents: "we are still learning so we need to understand the complexity of this issue internally, how it affects us, what options do we have as a company then start implementing the optimal options internally first. After this stage, the we can consider who and how we partner with them" [BOC Kenya, 2011].

The 'emergent planners' in both countries are represented by a mixture of companies from different sectors. However, South African companies dominate the composition of this cluster (17 per cent) compared with Kenyan companies (6.7 per cent). This reflects the general trend which shows that South African companies have more significant self regulatory contributions than Kenyan companies. As is the case with the South African '*efficiency drivers*' and '*visionaries*', the '*emergent planners'* are reacting to the threat and potential impact of the proposed carbon tax in 2013/14 by the treasury in South Africa and anticipated regulations emanating from the white paper on the National Climate Change Response Strategy, which was approved by cabinet as policy in November 2011. 'Companies will need respond to the risks posed by the carbon tax because, according to our research, if the FTSE/JSE top 40 companies were to pay the proposed carbon tax of R120 (US$ 14) per ton of CO_2eper tonne of CO_2 for all their direct operational emissions, their carbon costs could amount to almost US$974 million' (Kikate, interview).

The shadow of anarchy is a major driver for the emergent planners in Kenya. Companies such as Kakuzi and Rea Vipings plantations which are in the agricultural sectors are starting to recognise the risks presented by climate change, for example shortages of water and high temperatures in the Rift Valley (Kabubo-Mariara and Karanja, 2006). This has massive potential to disrupt their business models and competitiveness on the world markets because their business models rely on producing high quality horticultural products and tea. Since the Kenyan government is not capable of providing collective binding rules regarding mitigation and adaptation of climate change, the shadow of anarchy rooted in the loss of competitiveness and profitability provides the emergent planners with a major incentive to step in and start self-regulating themselves. To fill this governance gap, Rea Viping plantations is reportedly recruiting analyst from Europe to help them set targets and plan for these forecasted scenarios internally and along their supply chains (Opondo, interview).

4.2.3 Efficiency drivers

This cluster encompasses companies which are driven by a combination of organisational drivers, shadow of hierarchy and anarchy by engaging in collective self regulation. In both countries, through co-regulation, the state and business associations and the respective individual companies, mostly energy intensive companies set the rules and targets for the Energy Efficiency Accord. In South Africa, as part of the accord, the voluntary signatories agreed to a collective energy demand reduction target of 15% by 2015. Due to the emphasis on energy efficiency, the 'efficiency drivers' have a strong internal focus resulting in significantly higher scores on indicators that are driven by resource efficiencies, innovation, managerial capabilities and the structure and culture within the company (see figure 4.1; 4.2 and 4.3). As part of the strategy, the 'efficiency drivers' who are signatories of the accord "agree to collaborate with each other and government to promote the development of sector specific strategies and targets that contribute to the overall energy efficiency target; negotiate industry contracts to manage energy demand; develop common reporting requirements for energy use" (NBI, 2005).

Many of the 'efficiency drivers' implement the agreed rules and targets of the accord by focusing on in-house strategies which are centred on measuring their GHG emissions and focusing on energy and resource efficiency. Since most the energy efficiency contributions are collective initiatives they are not often driven by organisational drivers. For example, The Kenya Association of

Manufacturers (KAM) supports the EEA signatories with energy audits and funding to implement some energy efficiency projects. As a result, both Kenyan and South African samples have average scores on *product development* and *product and market combinations* indicators (1.67-1.87). Furthermore, this cluster performed poorly on compensatory activities in collaboration with stakeholders within or beyond the supply chain, resulting in low scores on *supply chain measures* and *acquiring emission credits and political activity.* The self-regulatory contributions which the 'efficiency drivers' received low scores often require substantial organisational resources and time to implement. Commenting on the challenges to developing innovative products and services to adapt to climate change Sasol's sustainability manager argued that

> "it is difficult for the company to promptly change its manufacturing process which has been financially viable for decades and innovate new climate change friendly products because "innovation depends strongly on long term investments in research and development (R&D), a process where the outcome is always uncertain.....for us to innovate means we have to develop new capabilities and technologies other than the ones which we have" (Goede, interview).

These challenges relating to innovation point to the absence of climate change adaptation governance contributions within the 'efficiency drivers' and the majority of South African and Kenyan samples. Whilst many of these 'efficiency drivers' are also exposed to changes in water availability or extreme events, such as droughts and floods, at present most of them do not possess the required organisational capabilities to adapt to the impact of climate change. Due to the fact that adaptation options which include coping measures, organisational adjustments and system transformation require organisational learning and "ecological sensemaking" internally and at times along the supply chain, collective self regulatory initiatives such as the Energy Efficiency Accord are unlikely to contribute to climate change adaptation (Berkhout *et al*, 2006; Whiteman and Cooper, 2011).

Due to the limited organisational resources available to many of the 'efficiency drivers', the business associations play an influential role in monitoring the implementation of the Energy Efficiency Accord. The ability of the National Business Initiative (NBI) in South Africa and the Kenya Association of Manufacturers (KAM) in Kenya to solve some of the collective action problems faced by individual firms allowed many of the 'efficiency drivers' to commit to the accord. Hence, the monitoring role of the NBI and KAM helps them in mitigating the free-rider problem (Hönke *et al*, 2009). To curb this problem the accord has clear guidelines regarding information sharing of technologies which enables

the ‘efficiency drivers’ to reduce their emissions. In addition to the monitoring from the NBI, the Department of Energy casts its shadow of hierarchy by carrying out three year interval reviews of the energy efficiency contributions of the companies. The threat of potentially stricter regulations from the state for not meeting the energy efficiency targets acts as an incentive for the ‘efficiency drivers’ to commit to the accord. “We got a good and realistic deal from the government. So we don’t want to force the government’s hand by missing these targets” (Marais, interview).

The abundance of energy intensive companies in this cluster also illustrates the role of sectoral institutions (business associations in this case) in influencing firms in specific sectors to contribute to governance. More so, companies in different sectors face different pressures and opportunities for climate change mitigation and adaptation. Firms in “high salience sectors” such as mining, utilities and manufacturing which dominate this cluster of ‘efficiency drivers’ have their core activities at stake, “with their fossil-fuel based business models being threatened” (Kolk and Pinkse, 2012: 3). Hence, these energy intensive firms focus their governance contributions on mitigation (energy efficiency in this case). An early change in business models for these companies could be a source of competitive advantage in terms of pre-empting regulations, markets and consumer preferences in some cases. As a predominantly co-regulatory governance contribution, the Energy Efficiency Accord has the potential to reduce costs and regulatory risks for the ‘efficiency drivers’ which could end up being a source of competitive advantage.

Table 4.1: Summary of strategies adopted by example companies representing the corresponding clusters

Cluster	Company	Strategy
Laggards	Access Kenya	The internet and technology company reports its 'continued excellence, leadership and stewardship in tackling climate change', but there is no evidence in their reporting that they measure their GHG emissions, forecasted future emission or energy use to develop a mitigation plan or any of the strategic options in Figure 2.2
	ABSA bank	The bank does not have a notable strategy to respond to climate change. According to a risk analyst at the bank 'there is not enough data on how climate change will affect their corporate clients in terms of risks to the bank to enable them to make important decisions' (Engel, interview).
Emergent Planners	BOC Kenya	BOC Kenya, a supplier of industrial, process and specialty gases has outlined plans to adopt climate change strategies from its parent company, the Linde Group. Part of the plans include capitalising on the rise in demand for large scale thin film photovoltaic modules by supplying specialty gases 'that help keep production as climate neutral and cost effective as possible'. The Linde Group has been involved in 'the evolution of hydrogen technology covering the entire hydrogen value chain from generation and liquefaction through transport solutions to vehicle fuelling' (Linde Group annual report, 2010).
	Group Five	This construction company has been participating in the South African Carbon Disclosure Project since 2009, which allowed it to measure its GHG emissions using the Greenhouse Gas Protocol. Therefore, it is in the process of setting targets based on the data from Green Gas Protocol. In an effort to reach these targets the company has started being involved in green buildings and renewable energy. However, the company acknowledges that 'it still has to develop in-house skills and a comprehensive strategy to accommodate climate change' (Mobane, interview)
Efficiency drivers	Mumias Sugar	Mumias Sugar, a Kenyan milling company, has been implementing energy efficiency initiatives through the Energy Efficiency Accord championed by the Kenya Association of Manufacturers' CEEC unit. Through its energy efficiency project, the company has identified and corrected energy consumption levels using 'medium voltage variable frequency drives' and modified its fuel and fleet management system. In addition, the company recently completed its bagasse cogeneration plant, which has enables the company to supply 26 megawatts of renewable energy to the national grid. As result of cogeneration, the company does not have to rely on energy sources such as coal, which emit large amounts of GHGs.
	Sappi	The global pulp and paper company based in South Africa has been carrying out numerous climate change mitigation efforts which earned them a score of 75% in the South Africa Disclosure Leadership Index of the CDP in 2010. Through production and energy efficiency programmes the company has managed to reduce its CO_2 emissions by 25% over the past five years. Sappi is currently generating 38% of its electricity from renewable sources in South Africa through its cogeneration plants using black liquor, bark, sludge and biomass from its operations
Visionaries	Woolworths	South African retailer, Woolworths launched its first CO_2 refrigerant pilot store together with a eco-fridge truck refrigeration in 2010 as part of its plans to reach its target to reduce its carbon footprint by 30% by 2012. Adaptation strategies such as sustainable farming practices through the Farming for the Future programme have enabled the retailer to reduce its farmers' water consumption. In addition, the company is driving innovation in clothing by selling a range of bamboo products, a plant which doesn't use fertilisers, helps improve soil quality and absorbs moisture three times better than cotton (see Methner, forthcoming).

As illustrated in figure 4.2 and 4.3, the attributes of the cluster are slightly different as South African companies scored significantly higher than Kenyan companies on *process improvement and GHG accounting and transfers.* These country level variations are mainly a result of the differences in the levels of shadow of hierarchy cast by the state. In Kenya, whilst KAM has the shared responsibilities with the Ministry of Energy to monitor and implement the accord, there credible threat of punishment or stricter regulations if the companies do not fully implement the Accord. More so, in comparison to accord in South Africa which has been functional since 2005, the Energy Efficiency Accord in Kenya was recently launched in 2011 and has been beset by funding constraints (KAM official, interview). Furthermore, companies in South Africa face greater threats of punitive measures and regulations if they fail to self-regulate. The numerous environmental regulations and the recently introduced carbon tax indicate that the South African government is slightly capable to cast a shadow of hierarchy despite capacity challenges (Hönke *et al*, 2009).

4.2.4 Visionaries

The 'visionaries' cluster, which is only present in South Africa, represents companies that are explicitly emphasising and addressing the opportunities and risks presented by climate change. They therefore scored fairly well on all the indicators (Figure 4.2). Many of these firms have self-regulatory strategies internally and within the supply chain and partnerships. Woolworths, which had a score of 83 per cent in the CDP Leadership Index, is a good example of a visionary (see Table 4.1). Like many visionary companies, Woolworths's leadership has committed financial and technical resources to self-regulate themselves through their 'Good Business Journey', which aims to improve the company's sustainability performance. Due to the competitive nature and fear of free-riders in the retail industry (Rokkan and Buvik, 2003; Singley and Williams, 1995), Woolworth's self-regulatory efforts are internal and within their supply chain. Their mitigation and adaptation efforts have significantly given them a competitive advantage and enhanced their reputation. Hence, the Woolworths is considered a standard bearer in the retail industry setting the benchmarks regarding how the retail sector should respond to sustainability issues in general. As an illustration, the supermarket's green format showcases the supermarket of the future with an emphasis on fresh food and sustainable technology. As the case with many 'visionaries', Woolworths derives its ability to self-regulate from pressure exerted by its consumers. Woolworths

caters for the high end market which is knowledgeable and concerned about climate change. The internal mitigation responses focus on reducing its negative externalities from GHG emissions. These efforts include setting carbon reduction strategy which aims to reduce carbon emissions from their facilities by 40 percent by 2015. The Director of Corporate and Public Affairs, Andrew Hall, summarised one of their in-store initiatives: “Energy efficient lighting and low energy refrigeration is used throughout the store. Meanwhile, blinds descend over the fresh produce fridges at night trapping the cold air inside, hot air from fridges is used for heating and air conditioning is better regulated throughout the store”.

With regard to climate change adaptation, Woolworths has also played the role of “inspector” over its supply chain (Heritier *et al*, 2009). This is mainly evident with its “Farming for the Future” (FfF) program which was developed to foster and verify sustainable land use and water management practices of its supplier farms. In addition to the supplier farms, the audits are also conducted at pack houses and processing plants (Methner, 2013). Annual farm and processing facility audits identifies and prioritizes risk areas at the farm level, explores their causes with the farmer and in discussion with the farmer makes recommendations for improving or changing existing practices based on priority. Woolworths pays for the audit but the farmer has to cover the costs of the measures to be implemented. According to Justin Smith, the shadow hierarchy casts by the state through regulations does not seem to be a major driver in their climate change adaptation initiatives: “business leadership for sustainability requires not waiting for the government to make changes, but rather going forward ---- the government will catch up” (Smith, interview). Hence, the high asset specificity in the relationship between Woolworths and its farmers seems to compel the retailer to assume the role of inspector who sets and monitors the rules through the FfF program. Firstly, Woolworths provides highly qualified personnel and training to support the farmers grow high quality farm produce. Considering the high end market that Woolworths targets, the retailer requires high quality farm produce. For the farmer this also means that they make huge investment regarding technology, personnel and training to ensure their yields are high quality. This characterises a relationship in which both the retailer and farmer have investments which are non re-deployable and specialised for a particular task.

Furthermore, the ‘visionaries’ also contribute to climate governance through collective self-regulation. For example, SABMiller is involved in the Water Futures Partnership in collaboration with WWF and GIZ. Even though the government did not explicitly delegate the functions of water management to SABMiller or WWF it acknowledges the governance functions that the private

actors are engaged in. Through the Water Futures Partnership the non-state actors involved are playing crucial role in climate change adaptation through the management of water catchment areas. As a collective self-regulatory approach, every partner has a shared responsibility. According to the report "the success of our partnership stems from the fact that each partner brings different skills and competences to promote water security, despite differing underlying motivations". Through the partnership, a risk assessment of hop farms (a key resource for brewing beer) found out that invasive trees were reducing surface water available to grow these crops and putting stress on the rest of catchment. The partnership is now working with other local stakeholders to remove alien species and replace them with indigenous, less water intensive vegetation in the region, as well as introduce ground water monitoring and establishing a Water User Association.

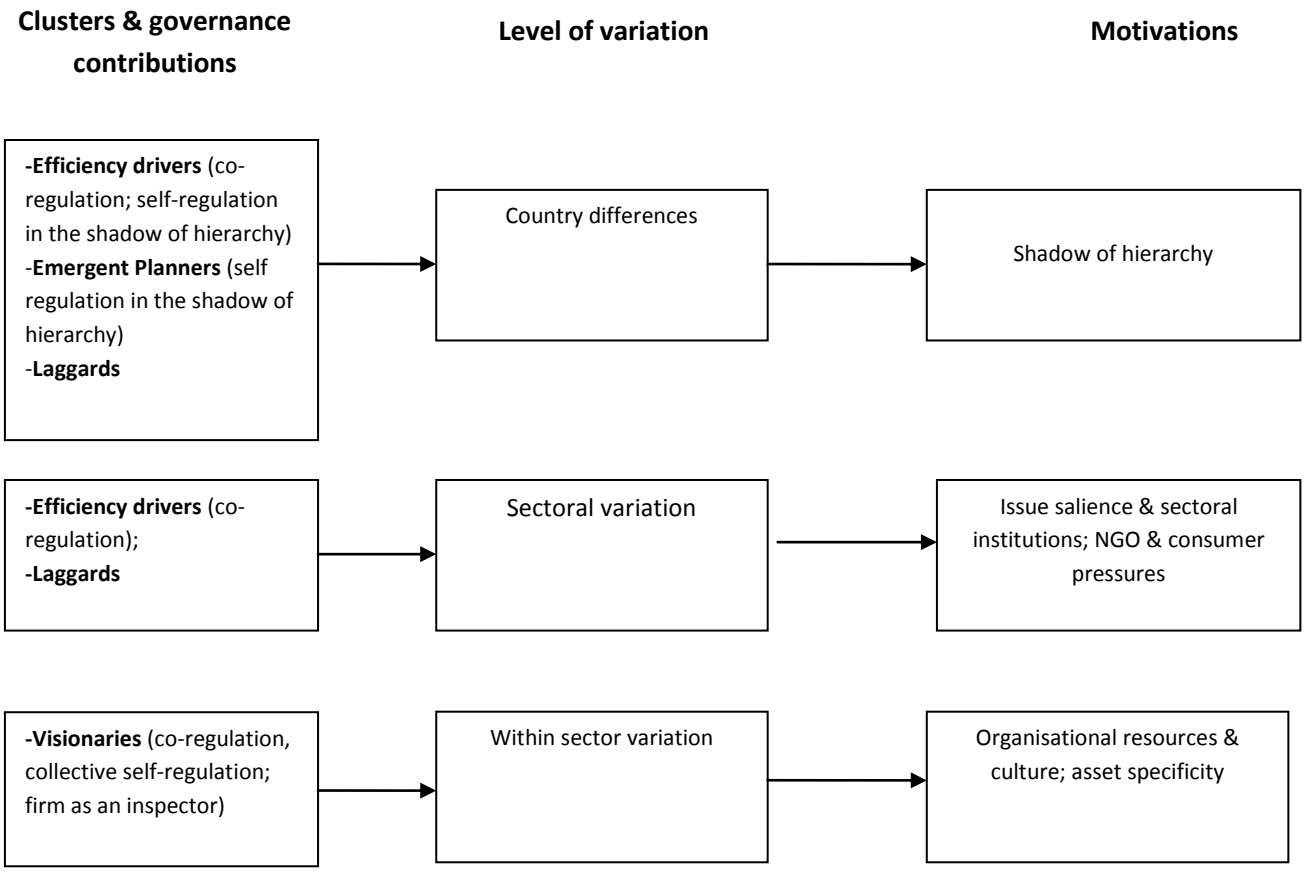
In conclusion, there is a strong representation of multinationals in this cluster of visionaries in. Based on the logic of appropriateness laws and policies such as the EU Emission Trading scheme in which these multinationals have their operations require them to comply with these regulations irrespective of where they operate and invest (Kolk and Pinkse, 2009; Prakash and Potoski, 2007). For example, SABMiller adopts a holistic approach to energy and carbon management, which applies to all their global operations. This holistic approach is embedded in their climate change target (that is, to be 50 per cent carbon efficient by 2020 over a 2008 base) which is strongly linked to phase 3 of the EU Emission Trading Scheme (SABMiller annual report, 2011). Multinationals such as Unilever and SABmiller in this cluster are also continuously targeted by NGO campaigns because of their strong brand names, which they have to defend (Hönke *et al*, 2008; Thauer, 2009). As a result, they are always proactive in responding to climate change because of concerns about their reputation.

4.3 Conclusions

This chapter presented results from the content analysis survey which explored business contributions to climate change governance in "areas of limited statehood", with a focus on South Africa and Kenya. Kolk and Pinkse' s (2005) typology in chapter 2 (figure 2.1) was adapted for the content analysis of the annual reports from the top 100 companies on the Johannesburg Stock Exchange and the 45 companies listed on the Nairobi Stock Exchange. Cluster analysis gave rise to four organisational configurations in South Africa (visionaries, efficiency drivers, emergent planners and laggards) and three main configurations in Kenya (efficiency drivers, emergent planners and laggards). The results suggest that companies' governance contributions are similar across the

various dimensions of the typology but there is variation in responses between the countries, across sectors and within sectors (figure 4.4).

Figure 4.4: A characterisation of the variation in business contributions to climate change governance and the drivers to those efforts



Companies' climate governance contributions within the efficiency drivers, emergent planners and laggards vary between the two countries primarily because of the different levels of statehood which influenced by the shadow of hierarchy cast by the state through regulations or the shadow of anarchy. The cluster analysis revealed that the 'efficiency drivers' mainly contributed to climate change mitigation through co-regulation and private self regulation in the shadow of hierarchy whilst the 'emergent planners' in the initial phases of private self-regulation in the shadow of hierarchy. However, the 'efficiency drivers' in South Africa performed slightly better than those in Kenya because the credible threat of punishment or stricter regulations for companies that did not meet their Energy Efficiency Accord set targets in Kenya was much lower than that in South Africa. In contrast, the presence of numerous environmental regulations and new climate change regulations

such as the carbon tax meant that companies could face harsher punitive measures if they failed to meet their set targets as agreed in the EEA. The absence of a credible threat cast by state regulations with regard to climate change also explains the fact why there are significantly more 'laggards' in Kenya and fewer 'emergent planners' who self-regulate.

In addition to the country variations, there is sectoral variation between the 'laggards' and the 'efficiency drivers'. Whilst most of the energy intensive companies in both countries participate in collective self-regulation through the Energy Efficiency Accord, the majority of less energy intensive companies in the banking, telecommunications and services industries belong to the predominantly non-responsive cluster of 'laggards'. The main reason for this sectoral variation is that highly carbon and energy intensive sectors face more regulatory, physical and economic risks from climate change as compared to a low carbon intensive sector. Due to the fact that climate change is a salient issue for energy intensive sectors, they are likely to face more consumer and civil society pressures. In addition to this, business associations such as the National Business Association (NBI) in South Africa and the Kenya Association of Manufacturers (KAM) have been influential in driving the 'efficiency drivers' cluster in both countries to adopt energy efficiency initiatives.

The variation in the clusters also extends within the sectors. Some companies within the same sector could be more responsive than their peers due to their market orientation, reputational concerns and NGO activism. For example, there are 'visionary' companies such as Woolworths in South Africa which have a high-end market orientation which prompts them to contribute to climate change governance than their peers because their customers put pressure on them. The high-end market orientation could mean that these firms have an image to protect which makes them more vulnerable to NGO and local community pressure. Furthermore, there is a distinguishing feature among the *visionaries* cluster which relates to explicit leadership commitment to climate change and sustainable development. Some of these 'visionaries' have high asset specific relationships with the supply chain which compels them to act as inspectors to ensure that their suppliers also comply with their set rules.

CHAPTER FIVE
BUSINESS RESPONSES TO CLIMATE CHANGE IN SOUTH AFRICA

5.0 Introduction

This chapter provides an overview of how and why South African companies are contributing to climate change governance. The results of this chapter also complement the climate change configurations in chapter 4. The first section discusses the main mitigation and adaptation governance contributions by the case study companies and the following section discuss the main drivers for these different modes of governance.

5.1 Climate change governance contributions

5.1.1. Self-regulation

Evidence from the research indicates that the most of the case study companies engage in self-regulation. As a first step to contributing to climate change governance, self-regulation focuses on their internal strategies. This involves internally implementing standards or rules agreed collectively at the global and national level. These contributions focus on GHG accounting, setting emission targets and energy efficiency projects. The GHG accounting and reporting guidelines for the majority of companies are based on the Global Reporting Initiative (GRI) Corporate Accounting and Reporting Standards. The GRI is a multi-stakeholder partnership of business, NGOs, government and others convened by the WBCSD and WRI with the aim of "developing internationally accepted accounting and reporting standards and/or protocols and to promote their broad adoption (WBCSD and WRI, 2004). The Carbon Disclosure Project which is a collective effort by a group of private actors to request climate change information from listed companies has also been influential in companies' GHG accounting and reporting initiatives. In addition to this, sustainability indices such as the Dow Jones Sustainability Index and JSE Social Responsibility Index have requirements on companies to report on sustainability issues which include climate change. The King governance reports which

have been endorsed by various industry associations also adds to this pressure. The King reports recommend all JSE listed companies to provide a sustainability integrated report and failure to do so, they are required to provide an explanation why they could not produce the integrated report.

In response to these collectively set guidelines, the case study companies in the three sectors accounted and reported their GHG emissions with different levels of intensity (see table 5.1). John Hanks from Incite indicated that GHG accounting is usually the first step towards action on climate change (interview). Whilst many multinationals and listed large companies measure their GHG emissions, the smaller unlisted companies (Capitec, Orley Foods and Devra Chemicals) which resemble the characteristics of "laggards" do not have any notable inventories on their GHG emissions. A Devra Chemicals engineer indicated that they did not have enough resources to develop GHG inventories and there was no motivation to do so because developing the inventories did not have a significant impact on their profit margins (Marais, interview). At Capitec bank, the marketing manager argued that they assess climate change differently than other companies because of their clientele base which largely focuses on retail banking. As a result, they focus on the strategic opportunities linked to their banking products and services to their clients who are not carbon intensive (Silber, interview).

Table 5.1: Summary of GHG emissions and emission targets by the case study companies (source CDP SA, 2012)

	Scope 1 direct emissions (tCO_2e)	**Scope 2 indirect emissions**	**Scope 3 emissions**	**Target year**	**Target**
Standard Bank	11,119	149,365	Yes	No	No
Nedbank	1,668	165,313	Yes	2015	12% reduction per FTE employee from base year (2007). (9.15 tCO2e reported in base year). 82.3% of target emissions reductions achieved
Capitec Bank	No	No	No	No	No
Unilever (global)	1,048,797	1,443,174	yes	2020	Halve the greenhouse gas impact of our products across the lifecycle by 2020
Illovo Sugar	180,086	174,429		2012	25% reduction from base year (2009). (109,171 tCO2e reported in base year). 0% of target emission reductions achieved
Orley Foods	No	No	No	No	No
					30% reduction on the base year coal-to-

Sasol	64,166,000	10,815,000	Yes	2030	liquids design. (30,000,000 tCo2e in base year-2005)
Pretoria Portland Cement	4,765,280	575,369	yes	2017	5% reduction in tCO2e per unit of production from base year(2011). (5,311,112 tCO2e reported in base year). Target includes lime and dolomite plants. 0% of target emissions reductions achieved
Devra Chemicals	No	No	No	No	No

The companies that accounted for their GHG emissions (that is, Standard Bank, Nedbank, Unilever, Illovo Sugar, Sasol, and PPC) noted that this was an important step in the process of managing risks and identifying GHG reduction opportunities, for example, Sasol, a notable "efficiency driver" indicates that

> *"Reducing GHG forms part of the risks profile of all new projects exceeding R150 million and influences final investment decisions.....for the last two years, we have been using a carbon calculator to assess the GHG footprint of all new projects. This enables project teams to factor the cost of carbon into overall project costs"* (Sasol, 2011).

In addition, Unilever argues that "compiling a comprehensive GHG inventory improves our understanding of our emissions profile and the potential liability or exposure" (Unilever, 2011). For low energy intensive "emergent planners" such as Nedbank which emits minimal amounts of GHG emissions, accounting for their emissions had different benefits which include brand building, improved stakeholder and investor relations and costs savings (Burnet, interview). In the case of Unilever and Sasol which have complicated value chains, increased emissions in a value chain may increase costs or reduced sales. Therefore, it is important to measure even the indirect emissions.

Despite the guidance of the GRI, evidence from the research indicates that it is not easy to produce good and reliable inventories. The GHG accounting process for many companies has evolved over the years. For example, Nadine Watson from Illovo Sugar noted that

> "*At first when we started measuring our GHG emissions using the Protocol it was not easy for our technical staff to adopt the methodology because there was no understanding of the value of accounting for our emissions, so very few technical staff responsible with developing our GHG inventory took the initiative seriously. Getting to apply the methodology to our operations, employees and value chain was difficult. So, we had to hire external consultants who did not understand our operations to help us with the process. This shows you that developing a reliable GHG inventory takes years and years to achieve and it's a complex process. Even up to today we are still learning and improving" (Watson, interview).*

Furthermore, even though some multinationals and large national companies had their own GHG inventory initiatives it took time for the WBSCD/WRI GHG Protocol to filter through to many South African companies after the first GRI version was introduced in 2001. As highlighted above by Nadine Watson from Illovo Sugar many companies with regional operations had to filter through the methodology from the head office to their subsidiaries all over the country and the region. Standard Bank currently does not account for emissions from Stanlib which it has an equity share, which means Standard Bank does not have a complete account of its indirect scope 3 emissions. Furthermore, due to some of these complexities in accounting for the carbon footprint, a lot of companies still exclude some emissions within their operations.

As a follow up to developing a GHG inventory, the responsive companies set emission reduction targets (see table 5.1). Even though the government has not set the emission targets for different industries, many respondents indicated that as part of South Africa's contribution to the Kyoto Protocol negotiations, the government is going to set GHG emission targets as part of its plans to have a green economy. According to Barnie Kgope from the National Business Initiative (NBI), "setting emission targets is a business practice that helps ensure an issue is kept on senior management's "radar screen" and factored into relevant decisions about what products and services to provide and what technologies to use" (interview). As a company which is constantly under civil society pressure to be more responsive to climate change, Sasol has been proactive in setting and reporting its emissions targets. In 2008, Sasol's GEC approved the company's GHG policy and environmental roadmap for the next decade until 2018. The roadmap includes reducing the GHG emissions intensity of all its operations by 15% by 2020 on a 2005 baseline and to reduce their absolute GHG emissions by 20% for all Coal To Liquids (CTL) plants commissioned before 2020 and by 30% for plants commissioned before 2030. Whilst setting emission targets is a sign of commitment to reducing GHG emission, it is not an indication that the targets will be met. As in the case of Sasol, whilst they have a clear roadmap regarding their emission targets, they do not have a comprehensive strategy as yet to meet these targets. At present the company tasked the GEC subcommittee which is chaired by the CEO to develop a company-wide coordination review and planning mechanism to respond to climate change.

Most large companies, particularly, those which have high carbon footprints face more pressure from NGOs and consumers to report extensively. Hence, companies such as Sasol, Unilever and PPC produce separate sustainability reports. These sustainability reports contain varying levels of detail on sustainability issues relevant to the company. Nadine Watson elaborated on Illovo's reporting

strategy: “our report focuses exclusively on issues that are deemed material to the business and for which sufficient data is available across all Illovo operations” (Watson, interview). Sasol reports that they have been facing requests from stakeholders for more information on the nature and extent of their capital and operational expenditure on climate change.

In addition to the significant increase in developing GHG inventories, adoption of GHG targets and improved climate change disclosure, there has been an accompanying increase in the level of emission reduction activities within the companies. However,” Sasol, PPC, Illovo and Unilever have extensive internal process improvement activities mainly focusing on energy consumption reductions. These internal process improvement activities are mostly based on the rules and guidelines from the Energy Efficiency Accord. At Illovo, a number of factories have adopted “green cane harvesting” which decreases agricultural emissions caused by the burning of sugar cane prior to harvesting. During the “green cane harvesting”, green biomass is stripped off the cane, either mechanically or by hand as an alternative to the traditional practice of burning. Trash removed from the cane is either left infield to render back into the soil, potentially improving soil moisture retention, nutrient levels and carbon sequestration or used as a renewable boiler fuel. Whilst the companies have been able to account for the cost and energy savings from these initiatives, they have not been able to account for the amount of GHG emissions reduced. Therefore, it is difficult to assess the value of these energy efficiency initiatives in contributing to climate change mitigation.

For the low carbon intensive companies such as Nedbank and Standard Bank, process improvement entails the implementation of management programmes for energy conservation. This is often combined with programmes to increase staff awareness of energy conservation. However, the presence of low energy intensive activities means that their potential to mitigate climate change is more limited through internal strategies. This entails that low carbon emitters’ climate change strategies such as banks have more impact when they collaborate with external partners, for example through carbon trading and financing renewable energy projects.

There is evidence that “laggards” such as Devra chemicals and Capitec bank have been implementing some process improvement initiatives. Devra Chemicals, a low carbon emitting manufacturing company has been installing lighting retrofits, smart energy meters, motion sensors, waste heat recovery systems and heat pumps. Capitec bank which has not been very proactive in developing climate change solutions revealed that they implement energy saving settings and remote shutdown of computers, lighting and temperature control. However, it is evident that these efforts by Capitec bank and Devra Chemicals are not intentional efforts to contribute to mitigation because firstly, the

companies do not measure their GHG emissions and secondly, they do not have any explicit climate change strategies. Instead, as noted by Devra Chemicals manager: “these are valuable and welcome cost saving measures to us as our energy bills come second in our cost expenditure after wages”(Marais, interview).

It is also very evident that the majority of South African companies regardless of size and resources have some form of process improvement strategy, mainly energy efficiency, even though they did not result in significant emission reductions. This is largely because many of these efforts do not require a lot of effort, time and resources or any significant organisational transformation. For example, installing equipment such as motion sensors, geysers and extraction fans can be done with existing assets with limited external assistance from consultants. These initiatives easily receive buy-in within the company, even among individuals who would usually oppose them. To support this argument, Dr Marco Lotz from Nedbank noted that:

> “*When we carried out the first pilot project in 2007, the guys in finance who are usually resistant to these things welcomed it because it made sense financially. There was buy in from the general staff too because this was something which they understood easily and they were active participants*” (Lotz, interview).

Evidence from previous research indicates that with regard to climate change adaptation, companies normally engage in innovating new products and services as a first move towards internally responding to the effects of climate change (Ekvall, 1996). However, there is no clear evidence that the case study companies are engaging in this form of coping mechanism. . For example, PPC said there are certain forms of cement like limestone cement which release fewer emissions, but they are very expensive to produce, so there is no market for them at present. Instead, the company presently focuses on insuring themselves from any losses from climate change (Govender, interview). Therefore, climate friendly technologies will only become a success when the companies posses capabilities to bring these technologies to the market in the form of products and services in a cost effective manner. In addition, Sasol noted that it is difficult for the company to promptly change its manufacturing process which has been financially viable for decades and innovate new climate change friendly products because “innovation depends strongly on long term investments in research and development (R&D), a process where the outcome is always uncertain....for us to innovate means we have to develop new capabilities and technologies other than the ones which we have” (Goede, interview).

Regardless of the above mentioned challenges, energy intensive companies will continue to receive pressure to innovate and adapt to climate change because they possess the key to finding technological solutions. “For these companies, the question is, are they willing to do something? And how far are they willing to move away from their current technologies?”(Roberts, interview). As a first step to adapt to climate change, Sasol invested over R1 billion in R&D in 2011 for its Sasol New Energy Unit to research and develop improved renewable energy and other low carbon ventures. New projects from the Unit include generating electricity from natural gas in South Africa and Mozambique. The company has also been able to advance its knowledge with respect to carbon capture and storage as well as underground coal gasification through its partnership with the European CO2 Technology Centre Mongstad in Norway. Sasol also partnered with the Bright Source Energy Inc., to advance concentrated solar power technology in South Africa. To show their commitment to adaptation Sasol said that “we are committed to using our proven skills particularly in technology innovation and commercialisation, to contribute to find solutions to this challenge of climate change” (Sasol, 2012).

5.1.2. Collective self- regulation

In addition to self-regulation at the company level, many of the case study companies participate in transnational collaborations which often spill over to the national level and at times the supply chain. An example is the Carbon Disclosure Supply Chain program which Unilever is a member. The initiative “is designed to promote information sharing and innovation between CDP Supply Chain members” (CDP, 2013). Through this network companies can share information on how to implement successful supplier engagement strategies and reduce supply chain emissions. Even though the program does not have codes of conduct, it provides a platform for companies to share innovative strategies. According to the CDP Supply chain report there remains a significant gap in efforts to reduce GHG emissions between multinational corporations and their suppliers. Whilst Unilever has sophisticated management systems to manage their climate change risks their suppliers are smaller and less mature. Therefore, through the information sharing platform, Unilever has been able to develop a Supplier Code which defines the company’s responsible sourcing requirements which include climate change.

Within the banking sector, Nedbank and Standard Bank have been signatories of the Equator Principles which are facilitated by the World Bank. Whilst the banking and finance sector do not contribute to any significant GHG emissions, they have faced extensive criticism regarding their financing of polluting industries (Tristen Taylor, Earthlife Africa project coordinator; interview). The

Equator Principles illustrates a form of collective response by multinational banks. The Equator Principles "is a risk management framework adopted by financial institutions, for determining and managing environmental and social risks in projects and is primarily intended to provide a minimum standard for due diligence to support responsible risk decision making" (UNEP, 2011). The principles apply to four financial products: project finance and advisory services; project finance; project related corporate loans and bridge loans. As voluntary members of the Equator principles, Nedbank and Standard Bank commit to implement the principles in their internal policies, procedures and standards for financing projects and not to provide project finance to projects where the client will not or is unable to comply with the principles. Even though the initiative is voluntary and has no penalties for non-compliance, there is a steering committee and working groups which provide support and training to other financial institutions which join the initiative. More so, the Principles have no formal mechanisms to screen or monitor the corporate practices of the members which implies that Equator banks gain some reputational benefits irrespective of their actual practices. Nonetheless, Standard Bank indicated that it had benefited from Equator Principles and is putting into practice many of the principles:

> *"with guidance from the principles we have been able to develop the Environmental and Social Appraisal System which provides a risk management measure to protect against possible financial, credit, reputational, regulatory and operational risks and links directly with the lender liability associated with environmental and social mismanagement. The system is designed to identify the risks associated with a client's ability to manage environmental issues. This assessment is used as input into the credit granting process. During 2011, approximately 245 employees across the Group were trained on the use and application of the new Environmental and Social Appraisal System. These employees include the credit risk officers, legal and compliance officers". The Equator Principles Performance Assessment tools are applied to all project finance loans of R10 million (US$ 1.3million) or more. All category A (high risk) and were relevant Category B (medium risk) projects financed are monitored to ensure that the project specific conditions set as part of the loan agreement are adhered to. In 2011, the bank financed nine Equator Principle projects and played an advisory role in a further 20 projects" (Standard Bank, 2012).*

In addition to the CDP Supply Chain program and the Equator Principles, there are other global collective self regulative initiatives which are not sector-specific. These global multi-stakeholder collective initiatives usually spill over to the national level. The Global Reporting Initiative and Carbon Disclosure Project (CDP) illustrate these partnerships. Illovo Sugar's Nadine Watson said that "these initiatives are of value to us because it improves the accuracy, transparency, relevance and consistency of our GHG reporting" (Watson, interview).

The Global Reporting Initiative (GRI) Corporate Accounting and Reporting Standard Initiative is a multi-stakeholder partnership of businesses, NGOs, governments and others convened by the World

Business Council on Sustainable Development (WBCSD) and World Resource Institute (WRI) with the aim of "developing internationally accepted GHG accounting and reporting standards and/or protocols and to promote their broad adoption" (WBCSD and WRI, 2004). The Carbon Disclosure Project (CDP) requests listed companies to respond to a questionnaire on climate change risks and opportunities and their strategies to respond to these issues. Even though the GRI and the CDP are voluntary initiatives, there are organisational bodies which have the responsibility to develop the guidelines on how the listed companies should report their GHG emissions and their responses. In the case of the GRI, the WBCSD and the WRI develops these reporting guidelines with contributions from business, civic society and academia.

In response, companies implement these reporting guidelines without any threat of penalties. However, the effect of these reporting standards have spilled over to the national level through reporting awards which tend to put pressure on companies. Hence, the effect of the rankings on companies' reputation will compel them to fully implement the reporting guidelines. According to Nicola Robins from Incite, "South African companies love be ranked, so they will do anything to improve their rankings" (interview). The most prominent reporting awards are the Association of Chartered Certified Accountants (ACCA) and the Ernest and Young sustainability reporting awards. Furthermore, every year SustainAbility and UNEP undertake an assessment and ranking of sustainability reports. Standard Bank, Nedbank and several mining companies have featured prominently on top of these rankings over the past few years. Due to the continuous high rankings of Nedbank, the bank has carved an image as "South Africa's green bank". Despite the impact of the rankings on companies' reputation they have been criticised:

> "perhaps unsurprisingly, public opinion does not tally with opinions of the experts. The latest Markinor Top Brands Survey asked 3,488 respondents in both rural and urban areas, "which companies they thought has done most for community upliftment". Their answer? Cocal Cola and Nike hands down. While community upliftment is not a direct substitute for sustainability, the findings of this survey tell us of two important things: firstly, who South Africans think are the good guys and secondly, that there is a confusion between companies' philanthropic gestures and the social contribution of its core business activities—a dangerous misunderstanding that arguably still persists among a number of current leaders in the business community. The danger of these ratings systems is that they often reward those companies who have adopted a compliance mindset, rather than the challenging mavericks and innovators who challenge the current business models" (John Hanks, interview)

To support Hanks' assessment, there are many companies who just ticked boxes to ensure their listing on the JSE SRI, failing to recognise opportunities for value creation associated with the sustainability agenda. Furthermore, most of these companies operate within the constraints of

publicly listed companies where the pressure for short term results may impede the delivery of more innovative longer term performance.

It is evident from the research that there are more collective private sector initiatives at the global level as compared to the national level. This illustrates the more prominent role of multinationals in contributing to climate change governance than locally based companies. Valerie Green, from NBI indicated that "unlike local companies, multinationals have a history in responding to sustainability issues. This history has allowed them to experiment and identify solutions which work....obviously we can't ignore the fact that multinationals face more institutional pressure than local companies and they have more resources" (interview). In some cases multinational and large companies serve as models to smaller firms, for example on reporting and GHG accounting. However, some of the institutionalised programs such as the CDP do not integrate smaller firms outside the JSE top 100. Therefore, non-listed firms will continue to be marginalised in these collective self-regulatory initiatives.

At the national level, the variation in these climate change governance contributions is also sectoral. Whilst Unilever significantly contributes to climate change governance much of the food and drink manufacturing sector's collective self-regulation is fragmented. In addition to the less cohesive nature of the sector as a result of several sub-sectors, the industry also has weak and fragmented institutions (Hönke *et al,* 2009). For example, there is no recognisable business association in the industry which can influence the companies at the national level to contribute to climate change governance. More so, the competitive nature of the food and drink manufacturing sector which leads to fear of free-riding discourages companies in the sector from collectively contributing to climate change governance .The increased fears of free-riding are higher in the sector because regulations are poorly enforced.

> *"Many environmental regulations and agreements are poorly enforced and the individual liabilities are imprecisely defined. The detection and prosecution of offenders is expensive and never adequate. So some companies will choose to wait and free-ride on others. As a market leader that is why we are always hesitant to collectively respond to social and environmental issues with our competitors" (Rohitesh, interview).*

At the local level, another form of collective self-regulation which is prominent in climate change governance in South Africa is partnerships between business and civil society and academia. These partnerships are evident in all the sectors. However, as the case with other forms of self-regulation discussed above, smaller companies are not very much involved in these partnerships. One of the

most prominent private-NGO partnerships in the country is the WWF-Nedbank Green Trust partnership which was formed in 1991.Through the partnership Nedbank provides funding to conservation projects which are managed by WWF-SA. Examples of these projects include the National Climate Change Policy and Outreach project which makes input to government policy and programmes by engaging constituents' such as local communities which are rarely consulted in policy formulation. Another project linked to climate change adaptation is the Sustainable Fruit Initiative which aims to develop guidelines and best practice for sustainable farming within the fruit sector in Western Cape. Since Nedbank is not involved in the rule setting and implementation of the projects, this Green Trust partnership mainly serves to enhance Nedbank's reputation: This is illustrated in Nedbank's focus on their marketing philosophy: "Our commitment to the environment and sustainable conservation forms part of of the bank's broad holistic marketing philosophy" (Nedbank, 2011). Through its partnerships with business, WWF aims to assist companies in changing how their products and services are used and consumed in a way that supports the ecosystem (Mthembu, interview).

In fact, most of the partnerships with NGOs involving the case study companies were CSRI projects in which the company provided funding (one way charitable giving) and the NGO implemented the project. Even though some of these CSI projects contribute to the governance of public goods such as sustainable access to water and biodiversity conservation; they are driven by need to gain legitimacy and enhance corporate reputation (Earth Africa, 2011). However, Unilever's collaboration with Oxfam resembles some form of transactional partnership (two way exchange of resources) in which they worked together to improve the sustainability of Unilever's supply chain (mainly the smallholder farmers). Through the Sunrise partnership with Oxfam, Unilever developed livelihood assessment methodologies which are "simple, quick and affordable" to assist communal farmers in Kwazulu Natal to adapt to extreme weather events which could be linked to climate change. Through this partnership they have expanded their initial programme by engaging with a number of smallholder farmer programmes which are run by Unilever's suppliers. According to Unilever CEO, Paul Polman "the aim of this partnership is to develop clear blueprints for inclusive business models which deliver both commercial success and help improve social, environmental and economic conditions". Barbra Stockings from Oxfam also commented about the partnership:

> "Historically, companies in the food and drink sector have tried to improve efficiency and minimise costs by simplifying and standardising their international supply bases.....Our ongoing work with Unilever shows that business is starting to consider how they source their produce to have an impact on their lives of people living in poverty. New ethical business models which incorporate marginalised

farmers are an exciting step forward and a solution to that can bring business benefits too. Unilever is among the first global food manufactures to make a commitment to that scale" (Barbara Stocking, Oxfam CEO).

In addition to this the private sector is also partnering with academic institutions to provide a platform to develop technologies which contribute to mitigating or adapting to climate change. The technological cooperation allows for the generation of new innovations which increase the effectiveness of climate change governance. Sasol's partnership with the University of Stellenbosch in renewable energy research and University of Pretoria on the performance of synthetic diesel fuels illustrates this form of cooperation. 'Through this collaboration universities will be able to leverage Sasol's research resources, while Sasol will be able to complement their own research efforts and capabilities by leveraging academic excellence to assist with the effective execution" (Sasol, 2011).

5.1.3. Co-regulation

At the global level, the trend has been that of corporations reacting to new stakeholder demands, particularly increased regulations. However, in emerging economies such as South Africa which has low levels of statehood, the challenge has been on who should design and monitor such regulations, particularly, for a complex problem such as climate change. Instead of seeking to regulate and monitor multinationals, international regulatory bodies, mostly the United Nations has been a driving agent in engaging multinationals at the global level in rule setting and implementation. This engagement has extended to climate change. In the context of this research, the United Nations Environment Programme (UNEP) and Standard Bank launched the Africa Carbon Asset Development (ACAD) facility to stimulate the growth of Africa's carbon markets through investor outreach and seed capital. In this partnership the UN is no longer performing the task of a regulator but they are best described as "brokers between regulatory and self- regulatory initiatives". This means that UNEP and Standard Bank have shared governance responsibilities designing and implementing ACAD. The partnership brings together UNEP's long standing capacity building expertise in environmental policy and finance and the financial know-how and regional reach of Standard Bank. According to Geoff Sinclair, head of Carbon Sales and Trading at Standard Bank, "Standard Bank believes that it has a duty and an interest to build the carbon market in Africa. We are committed to growing carbon literacy amongst bank managers and credit officers not only in our own organization, but in other banks across the continent" (interview).

The Africa Carbon Development Facility does not have a legal framework with explicit sanctions in the event that Standard Bank does not commit to its responsibilities of training and supporting project owners and developers. Instead of issuing strict sanctions, the initiative depends upon "commitment, credibility and visibility" (Sinclair, interview). In this sense this governance framework is similar to the Global Compact which Sasol, Nedbank, Standard Bank, Unilever and PPC are signatories. Whilst the Global Compact is not explicitly linked to climate change, the environmental principles are broad enough to respond to some climate change issues. The Global Compact is framed in such a flexible way that allows companies to implement the principles in a way that suites them. The initiative is built on a set of principles based on international declarations and agreements for the voluntary members of the Compact to follow. Even though the initiative has been labelled "green washing", it still gains some form of credibility through its global linkages to other regulatory systems and its global reach and moral authority of the UN (Jacobsson and Sahlin-Anderson, 2002).

At the national level, the Energy Efficiency Accord (EEA) has been the most visible co-regulatory governance framework to tackle climate change. Spearheaded by the National Business Initiative (NBI), the accord is a voluntary agreement between business and in cooperation with the Department of Energy setting targets to reduce energy consumption. Coal accounts for 77% of all the energy sources in South Africa, with a significant amount being channelled to Sasol's synthetic and petrochemicals operations and other energy intensive industries which consume over 40% of energy produced in the country (Harold Winkler, interview). This means that the energy intensive sectors are a major source of GHG emissions. Thus, the EEA can directly contribute to the mitigation of climate change. Many of the energy efficiency measures are firm-internal activities; however, their effects regarding reducing the negative externalities caused by the GHG emissions go beyond the firm's boundaries.

The government and business have a shared responsibility in setting and implementing the rules of Accord, with the NBI having the main responsibility to monitor the implementation. To support the implementation a Technical Committee was founded to coordinate the functionality of the accord regarding sharing ideas, peer support and networks. Even though there is no direct engagement between companies in the accord, the sharing of information through the Committee allows for companies to learn new skills and acquire tacit knowledge. The EEA mainly responds to the Energy Efficiency Strategy of the country which targets a reduction of energy demand whilst still emphasizing economic growth. To contribute to reaching this goal the EEA was initiated to facilitate reaching the national goals by committing to implement energy efficiency measures which would

result in a 15% reduction in energy demand by 2015 (DME, 2005). Currently there are 42 signatory companies, eight business associations.

Even though the EEA contributes to climate change mitigation, the intentionality of the companies to contribute to climate change governance cannot be ascertained. Evidence from the respondents indicates that most companies joined the EEA due to the "shadow of anarchy". The shadow of anarchy is linked to energy security. The increased demand for energy linked to economic growth in the past decade and Eskom's inability to expand its grid resulted in unstable energy supplies. This was experienced in 2007 and 2008 when Eskom introduced scheduled blackouts to stabilise the grid. This affected operations and hampered planning for a lot companies. For example Sasol, "During the blackout Eskom notified us to reduce our consumption of all a sudden by 10%. Even though we produce more than 30% of our electricity requirements this announcement affected our normal production at our synthetic fuels plants" (Goude, interview). Furthermore, there was a perception which still exists regarding the capabilities of the government and Eskom to supply adequate stable electricity in the short to medium term. "Our electricity system is running with almost no reserves...and we continue to hear that the completion of just the first unit of the Medupi power station in Limpopo is going to be delayed" (Dambudzo, interview). Hence, members of the accord see a connection between the energy insecurity and their own energy efficiency activities and EEA membership (Green, interview).

At the local level, a number of multi-stakeholder climate change initiatives exists which are initiated by companies or government in partnership with civic society to tackle collective action problems. Sasol has increasingly engaged in multi-stakeholder initiatives to address water governance issues at the sub-national level. The company is involved in the South African Department of Water Affairs Sector Leadership Group (WSLG) and catchment initiatives as the Vaal River Strategy Steering Committee. These governance functions are mainly aimed at contributing to adaptation. Water is a particularly important resource for Sasol and many manufacturing companies and limited water resources will directly affect their operations. This is illustrated by Lean Strauss's comments:

> "there is a general agreement that the overall trend, featuring high temperatures and evaporation points to a net reduction in available water resources which could cripple our operations because our refining and chemical manufacturing processes require water primarily to regulate temperatures and generate steam.....we are also aware of the responsibility that comes with being a large industrial water user, particularly in South Africa where our largest operations are situated....we recognise the challenging regulatory and voluntary commitment landscape ahead of us and have made the

management of water a strategic priority" (New Business Development & Technology head, Sasol, email communication).

The Water Sector Leadership group represents a collective action initiative featuring water sector institutions and experts. One of its main objectives include "identifying planning tools, frameworks and platforms for key water use sectors and how water is factored into their sector plans (Department of Water, 2009). The Vaal River Strategy Steering Committee is responsible for managing the Vaal catchment. These shared responsibilities include monitoring and information sharing as well as joint planning activities. These collective governance initiatives are effective in managing common pool resources such as water because there are numerous stakeholders who rely on it. Many of the stakeholders using the common pool resource are "self seeking" and will aim to exploit the resource to their benefit. This is illustrated in Lean Strauss's comments: "There is always competition for water. 40% of water from the Vaal river is used by the farmers who are upstream. We knew that if we did not engage them through this partnership our operations were going to be affected in the long term"(email communication). Therefore, even though the Department of Water Affairs has the power to cast a shadow of hierarchy through the regulations, it is unlikely to effectively govern the water resources without the collective input of all the interested stakeholders. More so, "the government, in particular the municipalities, acting alone cannot easily allocate and regulate water in a catchment as big as the Vaal as they are unlikely to appreciate local interests or priorities." (Director, Pegasys Consulting, interview).

5.1.4. Political activities to influence and shape policy

Very often the private sector always prefers self regulation with regards to their contributions to climate change governance. However, as climate change has become an important public policy issue, the private sector particularly the carbon intensive sectors have been heavily involved in initiatives to design policy because they are affected by these regulations. At the global level multinationals have participated in public forums in formulating the post 2012 Kyoto Protocol direction. Since the private sector is going to be directly affected by government commitments to emission reduction targets, they feel the need to participate in these public policy forums. Furthermore, private sector participation in the Kyoto Protocol mechanisms (Clean Development Mechanism and Joint Implementation) have been able to able to deliver over US$ 60 billion in

financial flow to developing countries. With the European Commission estimating that financial requirements for mitigation and adaptation in developing countries could reach US$ 130 billion, the private sector is required to play a much greater role in developing the policy (EC, 2011). As part of their contribution to the Kyoto Protocol Sasol and Eskom were included in the South Africa negotiation delegation at the Conference of Parties (COP) 17 Durban conference in 2011. According to Sasol's general manager for communications "the inclusion of a Sasol representative selected by Business Unity South Africa (BUSA) is meant to ensure that technical experts were on the panel to represent the interests of business". These arrangements tend to give the private sector more influence as they receive more details of the negotiations. As a result, criticisms were leveled against the inclusion of Sasol and Eskom in the negotiation team because of suspicions that they will not act in the state's interests. An NGO representative is quoted as saying that "there is a gigantic potential conflict of interest…Sasol needs to be removed the delegation to ensure that public servants and not corporate interests represent South Africa and its people" (Lekalala, Earthlife, 2011).

In addition to this, Sasol and Unilever have been part of business proposals which are aimed at influencing the outcome of negotiations. These multinationals are part of the World Economic Forum's Global Agenda Council on Climate Change. The Council indicates that "they have explored options for a successful framework for low-carbon, resource-efficient growth, taking into account the current economic and political landscape, and identified key enabling elements of action. The council proposed a series of specific initiatives and actions that should be implemented at the international negotiations". Since over 1000 companies and senior political figures attend the World Economic Forum annually, the proposals and resolutions of the forum are given serious consideration when agreeing international treaties. These proposals or memorandum of understandings often lead to the adoption of rules that guide certain aspects of the behavior of the parties of the relevant agreement (Lin and Streck, 2009). Multinationals usually participate in these public forums alienating companies which do not have global operations. As a result, smaller companies do not participate in shaping the international climate change policy.

At the global and national level business firms have been involved in the development of standards and codes of conduct that are increasingly incorporated into law. In the context of the Clean Development Mechanism CDM), Sasol and Standard bank which have nitrous oxide abatement and solid waste CDM projects, respectively have developed methodologies that guide the calculation of GHG emission reductions. As result, these methodologies have become standards and are freely available for use by other entities that developing comparable project activity.

Whilst companies, mostly the energy intensive sectors (heavy industrial) are involved in climate change public policy formulation through different platforms or forums, they rarely actively seek state regulation. In fact, at the national level the large energy intensive sectors (Sasol, PPC) often focus on political activities to influence the policy direction. This normally involves advocating for less regulation. With the emergence of the National Climate Change Response strategy Policy and the carbon tax energy intensive companies which include Sasol and Pretoria Portland Cement have formed platforms to influence climate change policies. The Energy Intensive User Group (EIUG) which represents 32 companies that account for about 44% of all the electricity energy generated in South Africa was formed in 1999 "to engage with Government, Eskom, NERSA, organised business and other stakeholders to ensure rational, reasonable and economically sound solutions based on quantifiable facts"(IEUG, 2012). The Group provides a forum for external advocacy with stakeholder "including local and national government, the Regulator and other political and technical bodies by clarifying issues, lending support, expertise and capacity where required, thereby ensuring clarity of response and effective lobbying" (IEUG, 2012).

When the Treasury released the white paper on carbon tax in South Africa, the EIUG responded to the paper criticising the tax. The carbon policy imposes a tax on emissions calculated at R75 a tonne of carbon dioxide, eventually rising to about R200 a tonne (SA Treasury, 2011). Based on Deloitte consulting firm's calculations, the costs as a result of the carbon tax to Sasol would be R9.9billion. In its response, the EIUG argued that "The paper on carbon tax is considered too theoretical and does not take sufficient cognizance of South African circumstances to balance the need to reduce greenhouse gasses while keeping the economy on a job creating path. Rather it focused on generating tax revenue with potentially negative implications for the country" (Robertson, 2011). According to Shaun Nel spokesperson of the EIUG "carbon tax is going to make electricity more expensive and put as many as 700 000 jobs at risk" (interview). As a policy which is going to affect companies from different sectors, the carbon tax policy paper also received responses from various sections of the business sector. For example, Standard Bank's Nigel Beck criticised the tax as a "revenue generating mechanism for the government.....carbon tax should be used to develop green energy and tackle climate change" (interview).

In addition to the EIUG, in 2010, the high carbon emitters also set up the Industry Task Team on Climate Change (ITTCC) to "influence the development of economically and environmentally effective and sustainable policies to address the needs of both the environment and South African industry" (ITTCC, 2010). The initial task of the ITTCC was to respond to concerns by industry on the National Climate Change Response Policy. According to the ITTCC website at this stage South Africa

still lacks a comprehensive understanding of its abatement and mitigation potential, associated costs and impacts (see box 5.2). With this in mind, the "ITTCC facilitates technical work in order to build a fact-based repository of current and robust information, which is shared with other industry and business groups and the relevant government departments to illustrate the art of the possible and inform government policy" (ITTCC, 2012). Whilst their motives are clearly unknown, it seems that the high carbon emitters are engaging the policy makers and other stakeholders to ensure there is a balance between the need to respond to climate change and reduce GHG emissions, with minimizing the economic consequences of actions and the associated social consequences such as job losses.

However, it is very apparent based on the actions and public engagements of the civil society that there is a deep mistrust about the intentions and commitments of energy intensive companies to tackle climate change. This is illustrated by a comment by Makoma Lekalakala from Earthlife Africa Johannesburg:

> "Despite releasing 21% of South Africa's GHG emissions per year, they want to increase GHG emissions rather than decrease. Instead of investing in renewable energy, they are investing in Carbon Capture and Storage which does not provide a long term solution GHG emissions as it creates a false belief of CO2 out of sight of mind.Sasol's marketing and distribution budget was R6.931 billion and GHG management was a mere R60 million"(interview).

As a result civil society has continually put pressure and exposed big emitters such as Sasol, for example; in 2009 Earthlife Africa Johannesburg organised a "climate change hearing" at the Sasol Rosebank headquarters to "charge and prosecute Sasol for contributing to climate change".

As the second largest GHG emitter in the country and an important source of employment and economic growth, Sasol has had opportunities to directly engage and persuade policy makers on the issue of climate change. In 2011, the company carried out a presentation to a parliamentary portfolio committee in response to the National Climate Change Response white paper which was later adopted as policy by government. As part of their main concerns Sasol argued that "the implementation of a carbon budget and carbon tax will require close policy coordination. This is presently not apparent in the White Paper or any other documentation" (Sasol, 2011). The company also argued that the climate change policy was an impediment to economic growth in South Africa. Together with the Chamber of Mines, Sasol and EIUG have been pressuring the government not to include any reduction targets until its implications were clarified. Despite their efforts, the government was adamant and implemented the climate change policy in December 2011.

Box 5.1: Activities by the ITTCC to influence climate change policy in South Africa

The ITTCC has submitted responses to the following discussion papers and proposed policies

- National Climate Change Response Policy Green Paper (2010)
- Draft National Climate Change Response White Paper (2011)
- Defining South Africa's DESIRED: Peak, Plateau & Decline (PPD) GHG Emission Trajectory (2011)
- Draft MoU on Carbon Budget (2011)
- ITTCC Letter to DDG National Treasury SA Carbon Options (2011)
- ITTCC Comment on Carbon Tax Proposals (2011)
- ITTCC Comment on Started Document for Grouping of Sectors for Carbon Budgets (2012)

In addition to this the ITTCC has commissioned the following studies:

- The Economic Impact of Electricity Prices and a Carbon Tax on Industry (2011)
- Alternative Carbon Pricing Options Study (2011)
- Assessment of a likely Carbon Tax Structure for South Africa (2011)
- Assessment of International Carbon Tax regimes (2011)
- Assessment of National Treasury's SAGE Economic Model (2011)

The ITTCC has also participated in numerous projects including the following:

- The ITTCC is working with Business Unity South Africa (BUSA) Task team on climate change to give input to the Department of Environmental Affairs project plan for the Carbon Budgeting Process.
- The Emission Intensive Trade Exposed (EITE) Industry Study
- Implicit Carbon Tax Study

Source: ITTCC website (2012)

At the COP17 climate change conference in 2011 in South Africa, a significant number of South African companies (both energy intensive and less energy intensive) were very active in the policy discussions to ensure favourable outcomes. On top of this, this was a great opportunity for the companies to burnish their climate change reputations. Standard Bank, for example, hosted a number of technical side events, "enabling government negotiations and technical specialists to engage around topical issues, such as funding lower carbon growth in Africa, advanced mechanism to combat Deforestation and Degradation (REDD) and the African Carbon Asset Development Facility" (Standard Bank, 2011). The COP17 also proved to be a useful platform for Standard Bank to further develop relationships and influence policy through their memberships to organisations such as the Carbon Markets and Investor Association, IETA and UNEP FI.

5.2 Motivations and constraints to the climate change governance options

5.2.1. Motivations to self-regulation

As highlighted in section 5.1.1, most firms' internal climate change contributions are a response to the set rules and guidelines from collective self regulatory initiatives such as the Global Reporting Initiative, the Carbon Disclosure Project and the Energy Efficiency Accord. With regard to mitigation, these internal contributions focus on GHG accounting, reporting and process improvement, whilst the adaptation efforts focus on coping mechanisms. Companies engage in these internal initiatives primarily because they require less effort and time to implement. The activities are often ad hoc and rely on existing assets and capabilities (Moser and Ekstrom, 2010). With the exception of Unilever's Sustainable Living Plan, none of the companies made substantial adjustments to their business models to adapt to climate change. This is because these adjustments and at times transformations require the firm to engage in ecological learning and planning which involve changes in behavior, values and practices.

Besides the fact that the mitigation and adaptive coping mechanisms require less time and effort, companies also engaged in these self-regulatory efforts due to economic incentives. Most respondents emphasized that the efficiency gains achieved through process improvement reduced their operational costs. Management literature argues that such operational cost reductions can increase a company's market value and competitiveness (Porter and van der Linde, 1995; Ammenberg and Hjelm, 2003; Porter and Kramer, 2002). The shadow of anarchy linked to energy security provides the companies the main motivation to become energy efficient. For energy intensive companies such as Sasol and Pretoria Portland Cement, the importance of energy security is even more evident. These companies rely on a stable supply of energy; hence, the black-outs in 2007 and 2008 severely affected the companies' operations. With the current delays in completion of Eskom's Medupi power station and other projects, the future supply of energy for these companies remains uncertain. This uncertainty creates challenges for on-going production and slows downs adequate planning even for companies which are not in the energy intensive sectors. Furthermore, the electricity tariffs have increased by an average of 25% since 2011 which has a direct impact on the companies' operational costs. Therefore, the internal energy efficiency activities are seen as a measure to become less dependent on the energy volatility.

Reputation was one of the main motivation drivers for companies' commitment to the internal initiatives such as GHG emission accounting, sustainability reporting and process improvement. This was a particularly prominent driver for large companies (Nedbank; Standard Bank; Unilever; Illovo Sugar; Sasol and PPC) which were more visible to society and at risk to more civil society pressure. Nonetheless, even smaller companies such as Capitec and Orley Foods saw the reputational benefits of "being seen to do something which improves the socio-economic and environmental aspects of society" (interview). Since climate change is a topic of public discourse in South Africa, the public regard energy efficiency and GHG accounting as positive corporate behavior. Sustainability reporting among South African companies them to communicate their activities and if required motivate for some of the activities (for example, Standard Bank's motivation to finance Eskom's coal powered stations)[7]. For companies which are in direct contact with consumers such as banking, inactivity on climate change might directly affect their bottom line. Hence, the relation between reputation and economic costs is explicit and motivates public presentation of behavior that is socially considered as appropriate. For Sasol, a multinational which is carbon intensive and continually faces NGO pressure, the reputational and legitimacy concerns are critical to the company. For example, in 2009 Sasol's nitrous oxide CDM project at Secunda was rejected by the UNFCC methodologies panel partly because of the vociferous opposition from NGO Earthlife Africa. Earthlife submitted public comments against Sasol accreditation arguing that the "compulsory elements of additionality (proving that without carbon funding from the CDM, the project would not be viable) were not evident in the project" (Christy van der Merwe, Engineering News).

More so, it was evident that Capitec bank was considering energy efficiency initiatives by mimicking other companies upon realising the reputational effects associated with contributing to climate change governance. "Look at Nedbank, they are generally considered a green bank, whether they are walking the talk or not, they have benefitted tremendously. Customers, particularly the middle class tend to be socially conscious at times, so they will support companies they consider to be green. That's an area which we exploit to see if we can attract those clients" (Capitec marketing executive, interview).

[7] According Karin Ireton, sustainability manager at Standard Bank, "energy is critical and because of this it would not be possible for South Africa or any other developing country to immediately stop using coal fired power generation"(interview).

Furthermore, Unilever has been able to make substantial adjustments which enable them to make progress in adapting to climate change mainly because of their existing capabilities as well as the flexibility in developing new products. The company has displayed an important capability to learn how climate change affects its operations. As highlighted in section 5.1, through their life cycle analysis, the company now has knowledge that their main source of emission is at the end of the value chain with their customers. The company's high level embeddedness within the supply chain influence the extent to which the company understands and learns from its ecological problems whilst accessing the local knowledge networks. This means they can successfully design processes, products and services which are pertinent to the organisation and its supply chain. On other hand, other smaller companies such as Orley Foods do not have the resources and capabilities to embed with the supply chain which allows them to recognise and interpret ecological information. According to Rohitesh from KPMG " the inability of these small companies to scale down climate change from a global problem to an organisational problem which they can understand, monitor and provide evidence of potential cost savings means they are unlikely to have buy-in from the finance guys and the shareholders if they want to implement any climate change strategies" (interview).

Unilever's climate change strategies should also be viewed in the context of its long standing commitment to socialized norms such as sustainability. This is mostly expressed through its Sustainable Living Plan (SLP). The SLP is more than a business plan as it allows for the institutionalization of sustainability as a core value, not only by setting specific targets, but also by creating the necessary capacity to achieve these targets. Unlike many companies, Unilever has committed a lot of human resources and developed tacit skills towards climate change which enables them to continually improve and innovate. The absence of such resources has undermined PPC's ability to continually improve their process efficiency initiatives. The company was able to reduce emissions and energy consumption easily at the beginning but it became more difficult to achieve additional reductions as that required more significant changes in the processes which highly depend on the availability of tacit knowledge and human resources. The company was able reach its target of reducing energy consumption by 20% in 2005 but is currently still to meet its 10 % energy efficiency targets by 2015.

The values espoused by Unilever through the SLP are also driven by the leadership and culture within the organisation. Such leadership and culture has also been instrumental in driving Nedbank's broader sustainability drive. The vision and commitment of top management has played a critical role in driving Unilever and Nedbank's climate change strategies in particular. The top management set the strategy of the company and embodies its culture. Hence, if the senior leaders

at Unilever did not support the Sustainable Living Plan, then it was likely to fail. At Nedbank this perceived corporate commitment to sustainability has also positively affected how top management and supervisors interact with employees to elicit ecological behaviour. Furthermore, the commitment of the CEO has been complemented by the finance department because there have been instances were sustainability initiatives have been undermined by lack of funding.

On the contrary, public statements in opposition to the new climate change policy and carbon tax by Sasol and PPC's leadership created a perception internally and externally that the companies are not committed to tackling climate change. There is still a set of individual and organisational biases in some companies that operate to maintain current behaviours that do not support sustainability (Hoffman, 2010). Whilst there have been notable improvements, this has been prevalent among corporate leaders in the banking and financial sector; real estate and food products in South Africa (CDP, 2011). Firstly, these corporate leaders together with their employees lack the literacy regarding climate, for example, KPMG consultant revealed that they did a survey among the top management of their clients on sustainability issues and they found that over 56% of the respondents did not clearly understand the causes of climate change. Many of these managers did not see the economic aspects of environmental issues. "These individuals often resisted climate science as counter-intuitive and contrary to taken for granted assumptions" (Rohitesh, interview). To add to that, "many of the 56% in the survey are the same people that believed that what is good for the environment is bad for the economy or if you protect the environment it must be bad for economic competitiveness of the firm"(Daya, interview). This could partly explain why some companies in the financial sector, real estate and food products refused to participate or responded poorly to the Carbon Disclosure Project.

Whilst the level of literacy on climate change by Sasol or PPC's top management is not explicitly clear, their opposition of the recently introduced climate change policy could have undermined creativity or innovation of climate friendly products and services. On the other hand, the values and commitment by top management at Unilever most likely played a supporting role in creativity and continual innovation of products which help their customers to adapt to climate change: "our CEO's commitment to sustainability has filtered into the organisation and it has helped us attract employees who are conscious about the environment.....and more resources have been allocated to sustainability.....all this has enhanced our capacity to innovate in areas related to climate change." (Duiys, interview).

At Nedbank, in addition to commitment of the top management, staff communication, training and engagement has driven the bank to focus more on climate change and sustainability even though some their sustainability strategies have been questioned (box 5.4). The bank reports that "its effectiveness in the area of environmental sustainability relies heavily on the support, buy in and passion of its employees. For this reason the Group makes every effort to engage with staff members to raise awareness of environmental responsibilities and opportunities in which they involve themselves" (Nedbank, 2011).

Box 5.2: Initiatives at Nedbank promoting a sustainability culture

Deep Green Day has become something of an institution within the Nedbank Group culture and 2011 focused on entrenching the organisation's reputation as SA's 'green and caring bank'. Employees gave of their time and money to make 29 000 sandwiches for distribution to disadvantaged individuals and communities, while a range of environmental volunteerism projects allowed staff to build relationships with their colleagues and spread the 'green' message to others.

- **My Work Space** was introduced in 2011. This groupwide communications platform allows for easy, customised sharing of information by allowing employees, business units and projects to develop their own online profiles and share successes, information and updates across the organisation.
- **Staff roadshows** are presentations by Chief Executive, Mike Brown, and other Executive Committee members that provide a proven way for senior management to connect with all employees via face-to-face presentations or through video conference and share key sustainability information, general progress and respond to specific questions from staff.
- **Sustainability Resource** has the primary aim of providing groupwide access to important sustainability information. This shared portal carries training material, research on climate change, water and social sustainability, legislation and policies, international best practice and environmental risk. It also offers tools such as SEMS, training material and screening and assessment methods.
- **Super Sustainability Forum** is a teleconferencing initiative aimed at all employees outside of the Nedbank Group headoffice in Sandton and reduces travel that would have been required for face-to-face meetings.
- **Face-to-face** communication sessions equip staff members with important insights into a variety of environmental sustainability initiatives and the implications thereof for the business. The aim is to enable these employees to use their wide sphere of influence within the group and beyond to help change environmental mindsets.

SUSTAINABILITY TRAINING AND POLICY ACKNOWLEDGEMENTS

To ensure consistency of vision and understanding by all staff Nedbank Group requires that its employees confirm that they fully understand the group's sustainability objectives and commitments. In addition each employee is required to acknowledge that he or she has received, read and understood all relevant environmental policies on an annual basis. At the end of 2011:

- 89,8% of employees had formally acknowledged Nedbank Group's Environmental Policy;
- 90,2% had completed the Corporate Responsibility Policy Acknowledgement; and
- 56,5% had participated in the Nedbank Carbon Survey.

Due to the ongoing communications and awareness creation in the group, individual staff commitment to environmental sustainability continues to increase, with 2011 levels of individual commitment to green at 95,5% compared with the 95,0% of 2010. In 2011 a total of 89,4% (2010: 81%) of employees completed the group's online sustainability training, which covers the basic principles of sustainability and outlines the bank's approach to sustainability and its achievements to date. The training also offers employees practical guidance on how they can become involved in helping the group achieve its sustainability targets and objectives. The 2011 Nedbank Group internal sustainability survey once again assessed the understanding of sustainability issues and the level of awareness of, and buy-in to, the organisation's sustainability objectives and undertakings by staff members. No less than 97% of Nedbank Group staff who participated in the survey regard the organisation as a leader in sustainability. Other key findings of the survey included:

93% of staff members believe that Nedbank Group's management is committed to environmental sustainability.

Source: Nedbank, 2011

In addition to culture and organisational leadership, there is an indication from the research that the structure of a company also defines how it responds to climate change. For example, at ABSA, "there is no clear coordination of climate change strategy in the different departments at the bank. So, ABSA Capital clients such as ESKOM are not exposed or do not deal with other segments of the bank" (Wendy Angel, interview). This has created communication breakdowns within the bank resulting in failure to capitalise on opportunities to address climate change. Furthermore, certain staff members have very strong motivations to resist climate change projects because it threatens their job security and in some instances their personal interests. So when introducing climate change initiatives, they always see it as: who gains and who loses?

5.2.2. Motivations to collective self- regulation

The research revealed that multinationals and large listed companies are mostly involved in collective self-regulation to set and at times implement and monitor rules regarding climate change. Most of these companies (Unilever, Sasol, Standard Bank, Nedbank) face more pressure from NGOs due to the significant impact of their operations on the socio-environmental well-being of society. Due to this pressure, their reputation is always at stake. Their reputation also directly relates to their "social license" to operate. For companies such as Nedbank which maintain a brand as a "green bank" and Unilever which sells branded products have strong interests in protecting these brandnames. Therefore, engaging in collective initiatives such as the Equator Principles allows Nedbank to align the Principles with their internal management processes which enhanced their status as a "South Africa's green bank". In 2010, the bank became Africa's first carbon neutral bank. Furthermore, many consumers, particularly in the developed world, are now aware or concerned about the effects of climate change; therefore, they are intent on buying products and supporting companies which are environmentally sustainable. As a result, multinationals such as Unilever and Standard Bank are participating in these collective self-regulatory initiatives to internalize these sustainable norms and at times so that they are seen to be doing something. According to Duiys from Unilever "we need to play by the new rules reflecting the changing attitudes and behaviors of today's consumers……the Supply Chain program and many initiatives we have enable us to develop

new green products" (interview). More so, collective reporting initiatives such as the GRI are instrumental in supporting companies to efficiently communicate sustainable brands to consumers.

Collective self-regulation is also a strategy of choice for companies which are heavily exposed to civil society pressure. In such cases, these firms might choose to enter into collective arrangements with these stakeholders through partnerships or seek other forms of co-regulation which allows them to control the contestation of their reputational risks (Hönke *et al*, 2009). For a company such as Nedbank which continually faces criticism of "green washing", their Green Trust partnership with WWF SA gives them more visibility through their voluntary emission reduction carbon trading projects across Africa. For Sasol and Illovo Sugar, their partnerships with research institutions give them the possibility of innovating climate friendly products, hence deflecting the pressure from NGOs.

The reputational and legitimacy concerns of large companies are also directly linked to obligations which indicate that firms have to comply to with standards of good governance. Standard Bank, Nedbank, Unilever, Sasol and PPC are listed on sustainable indices such as the Dow Jones Sustainability Index and Johannesburg Sustainability Reporting Index (JSE SRI). These sustainability indices are meant to help impact investors in making their investment decisions. Listing on these indices subjects these companies to extensive reporting on their sustainability performance. Furthermore, companies which are listed on the Johannesburg Stock Exchange are required to comply with the King III report on corporate governance. The governance code requires all listed companies to produce a sustainability report and failure to do so, they have to provide a reason for not producing the report. As result, the performance of a company in these indices has strong implications on investor perceptions of the firm. Therefore, companies seek collective self-regulatory reporting standards such as GRI to control the reputational risks associated with low rankings on the JSE SRI. According to the JSE,

> "The JSE's Socially Responsible Investment (SRI) Index now incorporates criteria focused on climate change, aimed at encouraging companies to consider and report on related indicators that assist in the mitigation of and adaptation to climate change…we are looking at how to improve price transparency in the South African market with the aim of encouraging more projects that reduce carbon emissions" CDP Report, 2012).

Furthermore, in recent years South African firms listed on the JSE are now compelled by regulations to respond to the sustainability issues espoused in the King III report because many of the principles put forward by the report are now embodied in the Companies Act of South Africa.

In addition to internalizing norms, South African based companies are very aware of the climate change discourse. The majority of the companies are dismissive of any climate change skepticism: "I'm very convinced and certain that climate change is occurring, the scientific evidence is overwhelming……the science has also proven that human beings largely to blame for climate change" (Beck, Standard Bank risk analyst, interview). Due to this concern, the companies share the opinion that "something must be done on climate change and we are willing to contribute to finding a solution" (Ireton, interview). Despite their willingness to contribute to climate change governance, many of these collective efforts focus on mitigation which requires less resources and effort. Therefore, whilst the companies are aware and concerned about the effects of climate change, they are not willing to invest more resources and contribute to adaptation. Hence, the companies focus on these collective self-regulatory initiatives which pay more attention towards mitigation. According to Rohitesh from KPMG "even though these measures give these companies the legitimacy and reputation they are looking for, they do not invest more resources to make a difference in consolidated efforts to govern climate change" (interview).

The fact that reputational concerns are the main driver to collective self-regulation also explains why there are fewer smaller; local and unlisted companies engaging in this initiative. Due to the climate change impacts of larger companies combined with their potential ability to contribute to governance, larger companies are more likely to receive attention from society and civic society than smaller companies which very often not listed. More so "smaller companies may not need to rely on the annual report or other formal channels to communicate their climate change performance" (Rohitesh, interview). Therefore, very few stakeholders are unlikely to be informed about the climate change impact of their operations or their contributions. Furthermore, the smaller companies are not exposed to more extensive networks to identify partners. At the local level, NGOs "also gain legitimacy and visibility if they target and pressurize larger companies. That is how they are seen to be effective……..it is on the basis of this that they continue to receive more funding" (Methabo, interview).

5.2.3. Motivations to co-regulation

Evidence from the South Africa case studies indicates that when the private sector engages the public sector in co-regulation the motivations very often go beyond reputation and legitimacy. At the global level, the Kyoto Protocol has been the main driver for private sector collaboration with the regulatory bodies. Even though there is a lot of uncertainty regarding international climate change negotiations most companies are anticipating that the emerging economies such as South Africa will commit to reducing their GHG emissions.

> "Under the UNFCC and its Kyoto Protocol, South Africa is committed to contributing its fair share of global GHG mitigation efforts. Accordingly, South Africa has committed itself to an emission trajectory that peaks at 34% below a "Business as Usual" trajectory in 2020 and 40% in 2025, remains stable for around a decade, and declines thereafter in absolute terms"(DEA, 2011).

Due to this credible threat of regulations, a lot of companies are starting to pre-empt these regulations by sharing responsibilities with global regulatory bodies such as UNEP in providing governance. According to Karin Ireton from Standard Bank they are "convinced the carbon trading scheme will still be functional post Kyoto, so our partnership experience with UNEP, which is one of the implementing agents for the carbon market will serve us well to help us for our continual involvement in the carbon market" (interview). Due to the fact that very few financial institutions in South Africa and sub-Saharan Africa participate in carbon trading, Standard Bank hope to acquire a competitive "first mover" advantage through their Carbon Asset Development Facility (ACAD) partnership with UNEP.

However, the uncertainty regarding the Kyoto Protocol also explains why some companies have a "wait and see" approach to committing to any climate change governance partnerships. Therefore, firms, mostly carbon intensive sectors which face greater regulatory risks from climate change regulations are more likely to pre-empt these regulations because they are targeted at them. Nonetheless, other sectors are even skeptical that South Africa will meet its target to cut emissions by 34% by 2020. "The probability that this can be achieved is highly unlikely to almost impossible. I would therefore say that we are almost guaranteed to miss the target" (Robbi Louw, Promethium). Therefore, business firms need more clarity:

" if we get the right signals and some financial incentives from the international negotiators, much more can be done. There is no lack of interest from the business community, but there is still a lot of confusion which gets compounded if the negotiators don't achieve a clear outcome"(interview)

Despite high levels of uncertainty at the global level, there is a clear emerging climate change policy framework which a lot of companies are starting to pre-empt. As a result, firms, mostly energy intensive companies participate in the Energy Efficiency Accord (EEA) to avoid possible future sanctions. In October 2011 the government of South Africa launched its Climate Change Response policy which aims to guide South Africa to a "climate resilient and low carbon, job creating and pro-poor green economy" (see box 5.4). To support the climate change response policy, the government introduced the carbon tax in the 2012 and the Integrated Resource Plan (IRP) for the energy sector outlining the government's strategy for electricity generation to 2030. The IRP paved the way for the participation of Independent Power Producers who will produce the bulk of the renewable energy which will account for 42% of all electricity generated in South Africa. These policies send a clear signal to business that the country is entering into a regulatory phase to curb GHG emissions. As a result, a lot of carbon intensive companies are expecting tougher regulations on energy efficiency.

Box 5.3: South Africa's National Climate Change Response Policy at a glance

The Policy is clear that South Africa is adopting a balanced and developmental approach to responding to the challenges and opportunities of climate change This means that South Africa will prioritise climate change responses that have both significant mitigation and adaptation benefits, and that also have significant economic growth, job creation, public health, risk management and poverty alleviation benefits.

In implementing the mitigation elements, the policy will focus on the following approaches:

- Firstly to build on existing emission reduction projects and programmes;
- Secondly to undertake an in-depth assessment of the mitigation potential of key sectors of the economy, as well as an assessment of the best available mitigation options for the country.
- Thirdly, on the basis of this analysis, and through engagement and dialogue with all stakeholders, the country will be in a position to define the desired emission reduction outcomes for key sectors and sub-sectors.
- Finally, this work will be further developed into a mix of mitigation approaches, policies and measures that are best suited to enable the sectors and sub-sectors to achieve the defined desired emission reduction outcomes.
- As part of this work, key sectors will be required to prepare and submit mitigation plans that set out how they intend to achieve their desired emission reduction outcomes.

The adaptation strategy will first focus on the country's adaptation planning capacity and this will be done by developing long term adaptation scenarios in order to inform national, provincial and adaptation strategies. The adaptation strategy will focus on selected sectors such as agriculture, water, health and human settlements.

Source: South African Government Information website[8]

Although state regulations are being introduced, there is skepticism regarding the state's capacity to implement these regulations. Since the end of apartheid, the South African government has developed ambitious and world class environmental regulations, for example, the National Environmental Management Act (NEMA) (39 of 2004). However, the state stills lacks the capacity to implement these regulations. This challenge is evident in PPC's sustainability manager's response: "At present there are three spheres of governance, in terms of regulations that we have to respond to: the constitution, NEMA and municipality by-laws and these can undermine innovation. We wanted to build a cement plant in the Western Cape but ended up shelving the project because it took us three years to go through the different approval stages"(interview).

Whilst the threat of regulations is a major driver for participants to the Energy Efficiency Accord (EEA), some members of the accord saw it as a platform to share information and learn. This was a recurring theme for companies who were involved in local level multi-stakeholder partnership forums. "The EEA is a great platform to learn and develop trust between industry partners and the government because there is so much distrust amongst around…….even though outside the agreement information sharing is rare, here the culture of knowledge sharing and even a certain belonging has developed" (interview). In addition to this, partnerships which involve NGOs are regarded by companies as increasing importance in developing and implementing policies because NGOs are well informed attached to ecological environments as they operate at the local level.

Furthermore, the National Business Initiative (NBI) has been instrumental in influencing companies to participate in the EEA. Following the adoption of the Energy Efficiency Strategy for South Africa, the Energy Efficiency Accord was signed with government through the Ministry of Minerals and Energy. The Accord was facilitated by the NBI and its aim was to assist in implementing the strategy and contributing to the achievement of the energy efficiency targets. According to Valerie Green from NBI,

> "Without the NBI, it is hard to imagine how business could have come together to tackle climate change. As the go-between government and business in the Accord, we provide a

[8] Speech by the Minister of Water and Environmental Affairs, Ms Edna Molewa, at the launch of the Climate Change Policy Framework

> platform for collective engagement between business and government on demonstration of energy efficiency investment, energy savings, emission reductions…"(interview).

In addition to providing this platform, the NBI was responsible for establishing the Energy Efficiency Leadership Network. Members to the Network include the government and business associations. Many of these business associations include the Energy Intensive User Group, the Association of Cement Manufacturers and the Concrete Manufacturers Association which represent mostly energy intensive companies. This explains why the majority of the EEA members belong to carbon intensive sectors. Most of these carbon intensive companies also face extensive physical and economic risks from climate change. According to Sasol:

> "The issue of energy and water supply and security is regarded as one of our material risks and, given that there is going to be an increased focus on renewable energy and reduced energy consumption from coal, Sasol joined the Energy Efficiency Accord to help reduce the energy intensity of our operations" (Sasol, 2011)

In addition to this, Illovo Sugar also identified risks and opportunities within their management system. These risks are associated with reduced quality of raw materials due to reduced water availability and reduced water quality. The company notes that reduced runoff due to reduced precipitation could impact on the quality of water especially salinity. This implies that the risks associated with climate change play an important role in driving these companies to contribute to climate change governance.

5.2.4 Motivations to private sector's political activities

Evidence from the research suggests that the threat of looming regulations has driven companies, mostly multinationals and carbon intensive sectors to participate in shaping the global and national climate change policy. It is evident that the ongoing negotiations on the Kyoto Protocol will have significant impact on business operations. According to Nicola Robins "the increased interest from business in the direction of the Kyoto Protocol stems from the fact that business is partly responsible for the emission of large amounts of GHG emissions and at the same time an important stakeholder in finding solutions to reducing the emissions"(interview). Evidence from the research indicates that most firms are anticipating strict regulations on emission of GHGs; therefore, they are pre-occupied with reducing the impact of the potential sanctions or attempting to shape the direction of such regulations. For example at the World Economic Forum in 2010, Sasol was part of a group

multinationals which released a policy statement on the climate change negotiations encouraging “member states to have a holistic view in discussing responses to climate change”. The policy statement encouraged member states to look at other policy options excluding carbon tax because it would undermine the fragile economy after the 2008 financial crisis. Furthermore, to reduce the anticipated sanctions from the Kyoto Protocol the private sector has participated in the negotiations either as part of country delegations or through position statements which outline their recommendations. For example, Sasol representatives have been part of South African delegates to the Kyoto Protocol climate change negotiations for several years.

Despite the concerns of the private sector, it’s unlikely that the companies will face the sanctions if they do not meet set industry targets. According to the Kyoto Protocol, states have the responsibility to implement the emission reduction targets and penalize sectors which do not meet those targets. However, empirical research shows that most countries will miss their agreed targets with some major polluting countries such as Canada having withdrawn from the Kyoto agreement. Even in South Africa there is doubt if the country will meet its emission reduction target of 34% by 2020. "The probability that this can be achieved is highly unlikely to almost impossible. I would therefore say that we are almost guaranteed to miss the target," said Robbie Louw of Promethium, a carbon emissions and carbon credit consultancy.

The effect of the Kyoto Protocol have spilled to the national level resulting in the National Climate change Response strategy, the carbon tax and the vehicle emissions tax which was introduced in 2010. Despite these comprehensive regulations, the capacity limitations within government could undermine its ability to effectively implement the regulations and sanction the private sector. “At the moment there is no clarity on the monitoring, reporting and verification of the [carbon] tax. The government needs to answer these questions. Will additional staff be employed, will an independent company be contracted for the work or will there be a verification authority?” (Sonnerberg, interview). This comment also indicates that the private sector’s concerns with the regulations are not only a result of fear of sanctions, but the lack of clarity in the policy. Hence, private sector participation in public regulation is also aimed at “engaging with Treasury to avoid the negative impact on the economy” (Sonnerberg, interview).

Furthermore, at the national level, the Energy Intensive User Group which is very active in its attempts to influence the rule setting and implementation of the carbon tax argue that these punitive regulations will increase their operational costs which ultimately undermine their competitiveness. The fundamental argument is that environmental regulations impose significant

costs, slow productive growth and thereby hindering the ability of business firms to compete in international markets. This loss of competitiveness is believed to be reflected in declining exports, increasing imports and long term movement of manufacturing capacity to other countries, particularly, in carbon intensive industries (Barret, 1991; jeffe *et al*, 1995). "Sasol's contribution to the tax would come in at about R3 billion a year (approximately US$ 300 million a year). This represents 12% of our profits for the years end June 2012" (Parker, interview). Environmental consultant, Andrew Gilder also argued that "there are a range of other tax considerations that might rise with the introduction of the carbon tax for which there are no clear answers yet. Carbon reduction or energy renewable equipment is costly". Many responds argued that as a result of the carbon tax, the manufacturing sector was set to lose its competitive advantage. "Chinese manufacturers, for example are more competitive precisely because they are not subjected to environmental taxes" (Bezuidenhout, Manufacturing Circle, interview). Since the carbon tax is in the early stages of implementation it is difficult to conclusively argue that it will undermine the manufacturing industry's competitiveness. *Jaffe et al* (1995) reviewed over 100 studies on the potential effects of environmental regulations on competitiveness of American industry, and conclude that "studies attempting to measure the effect of environmental regulation on net exports overall trade flows and plant-location decisions have produced estimates that are small, statistically insignificant or not robust to test of model specification"

Whilst the carbon tax might increase the operational costs and competitiveness of some firms, there is recognition that these regulations will also reward and benefit those firms which significantly curb their emissions. As a result, those companies which comply with the regulations will benefit more directly, for example by restricting entry to their industry and by improving their resource efficiencies in a way that reduces operational costs. Whilst smaller manufacturing firms such as Devra Chemicals do not have the capacity to participate in public forums to influence environmental regulations, they have benefited from the strict environmental regulations in the Western Cape. This has somewhat benefited these small manufacturers as the environmental regulations have created a barrier of entry to carbon intensive companies. The strict environmental regulations coupled with limited state capacity to implement the regulations forced PPC to abandon its plans to set up a manufacturing plant in the Western Cape in 2010.

Despite the potential risks of sanctions from the Kyoto Protocol some companies participated in the negotiations because they saw opportunities to share technological information (BUSA, 2012). Even though states have the final responsibility for implementation of the Kyoto Protocol, in practice the implementation of CDM and JI mechanisms heavily rely on the private sector. According to Business

Unity South Africa (BUSA) secretary “one of the key reasons we had technical experts from industry as part of the negotiation team was to lobby for the transfer of clean technologies from developed to developing countries through financial and other measures”. The industry experts representing the South African negotiation team deliberated this issue in an Expert Group on Technology Transfer (EGTT). In collaboration with other developing countries, South Africa wanted to establish performance indicators for measuring and reporting on technology transfer activities. However, no breakthrough could be achieved on this issue because governments could not force the private sector to share technologies with developing country counterparts, and the protection of intellectual property rights is a key concern.

5.3 Conclusion

This chapter discussed the main climate change governance contributions by the private sector in South Africa. Table 5.2 provides a summary of these governance contributions and the underlying drivers to these contributions. The results indicate that the South African case study companies contribute to climate change governance through self-regulation, collective self-regulation, co-regulation and by being involved in public regulation. Some of these contributions complement the results which came from the content analysis. Through self-regulation, the companies have varying levels of internal strategies which are based on collectively agreed rules and guidelines such as GHG accounting and sustainability reporting. Collective self-regulation, involves firms at the global and national level collaborating with state actors and various non-state actors such as NGOs to develop and implement rules relating to climate change. Standard Bank, Nedbank, Unilever and Sasol are the case study companies which are most involved in collective self-regulation. Much of the adaptation activities occur at the local level, for example, Sasol’s water management partnerships with municipalities and local farmers at the catchment level. Co-regulation entails that companies, mostly in the energy intensive sectors share governance responsibilities with the state on an energy efficiency accord. Finally, due to the emerging regulatory threat, some companies such as Sasol are involved in political activities to influence climate change policy.

Table 5.2: Modes and motivations for fostering non-hierarchical climate change governance in South Africa.

Contributions	Mitigation/ Adaptation	Companies	Main Drivers
Self-regulation	Mostly mitigation and very limited levels of adaptation	Standard Bank; Nedbank; Capitec; Unilever Illovo Sugar; Orley Foods; Sasol Pretoria Portland Cement; Devra Chemicals	Shadow of anarchy; Organisational factors; reputation
Collective self-regulation	Mostly mitigation and adaptation, mostly at the local level	Standard Bank; Nedbank; Unilever; Sasol	Reputation and legitimacy;
Co-regulation	Mitigation	Unilever; Sasol; PPC; Standard Bank	Shadow of hierarchy; Shadow of anarchy; sectoral institutions; problem and issue salience
Political activities to influence & shape policy	Mitigation	Sasol; PPC	Shadow of hierarchy

Evidence from the research indicates that self- regulation is mostly driven by the shadow of anarchy associated with the perceived inability of the state to provide energy security. Hence, the shortage in energy supplies could undermine the companies' competitiveness. Some of the internal activities are driven by organisational factors such as the resources and leadership which firms, particularly, large and multinational companies possess. These organisational resources enable them to invest in activities such as energy efficiency. Furthermore, some of these firms have reputations concerns which compel them to implement internal climate change strategies. Larger firms are the ones which face more reputational risks from consumers and NGOs which explains they are very much involved in collective self-regulation. Co-regulatory activities linked to the Energy Efficiency Accord among energy intensive companies are driven by the emerging shadow of hierarchy together with the shadow of hierarchy as the companies perceive that the government will be unable to ensure reliable energy. Furthermore, many of the energy intensive companies which engage in in the Energy Efficiency Accord face more regulative, physical and economic risks linked to climate change. Finally, the emerging threat from regulations has compelled some companies which will be mostly affected by the regulations to engage in political actinides to influence these climate change policies and regulations.

CHAPTER SIX
BUSINESS RESPONSES TO CLIMATE CHANGE IN KENYA

6.0 Introduction

This chapter provides an overview of how and why Kenyan companies are contributing to climate change governance. The results of this chapter also complement the climate change configurations and explanatory factors in chapter 4. The first section discusses the main mitigation and adaptation governance contributions by the case study companies. The following sections discuss the main drivers and conditions for these different modes of governance. The conclusion uses table 6.1 to provide a summary of how and why Kenyan companies contribute to climate change governance.

6.1 Climate change governance contributions

6.1.1. Self-regulation

As illustrated in the content analysis results, a significant number of the Kenyan case study companies do not have any recognisable climate change governance contributions. The case study research indicates that a few companies, mostly large companies are involved in private self-regulation. This usually involves process improvement in response to different forms of standards and guidelines on energy efficiency. Whilst these self-regulatory initiatives could reduce GHG emissions, the intentionality of these efforts towards contributing to climate change governance is not clear. Large firms (Athi River Mining, Unilever, Standard Chartered Bank, Total Kenya) tend to have extensive process improvement initiatives. Total Kenya, for example, has an "Ecosolutions" program aimed at developing products and services which helps its value chains including its customers to reduce their GHG emissions. In addition to this, the company implements the Carbon Capture and Storage (CCS) technology which involves recovering carbon dioxide where it is generated and storing it underground so that it is not released into the atmosphere. Whilst companies can implement the technology at the firm level, the CCS technology is developed through a collective effort of leading multinationals' R&D projects.

Low energy intensive companies such as Standard Chartered Bank also respond to various global standards and guidelines on energy efficiency. These initiatives include construction of green buildings, for example the construction of their headquarters in Chiromo which received a GOOD LEED9 from the Leadership in Environmental and Energy Design (LEED) as a modern green building. As a less energy intensive company which does not consider climate change to be a material issue, these energy efficiencies projects are efforts aimed at enhancing the bank's legitimacy and reputation. For the bank, climate change is mostly viewed as a branding and communications issue; hence, the only individual responsible for climate change in the bank is the brand and corporate communications manager. The manager indicated that she is responsible for the company's climate change strategy and the executive management are not directly involved.

With regard to companies operating at the national level, Mumias Sugar have been able to utilize existing technologies through its bagasse cogeneration project as part of a response to unreliable energy supplies. The bagasse cogeneration project involves generating electricity using the sugar

[9] The Leadership in Environmental and Energy Design (LEED) is a program that provides third-party verification of green buildings. For a building to earn LEED certification, a project must satisfy all LEED prerequisites and earn a minimum 40 points on a 100-point LEED rating system scale

cane residue. Athi River Mine has been implementing various technologies which are common among cement manufacturers globally such as the use of efficient fans with variable speed drives, optimization of compressed air systems, replacing old motors with high efficiency motors, kiln combustion system improvements and upgrading older dry kiln to multi-stage preheater kiln. Even though the companies did not intentionally implement these measures as mitigation strategies, they still managed to reduce their emissions. However, they could not account for the emissions reduced because their focus is on cost reductions. Silvester Makaka, from Athi River explained that "with the financial crisis it is not even cost effective for us right now to invest in equipment which measures all components of flue gases and process gases"(interview)

At the national and local level, relatively smaller companies in less energy intensive sectors (Kenya Commercial Bank, Family Bank, Kuguru Foods) do not have any recognisable climate change governance contributions to mitigate or adapt to the impacts of climate change. These companies have the same characteristics as the "laggards" presented in chapter 4. According to Peter Nyaga, from Family Bank "banks do not release any greenhouse gases and our operations are not tied to climate change. Our main obligation is to provide banking to Kenyans. If we are to talk of any social responsibilities for us, then it will be to provide affordable and accessible banking. Climate change is the responsibility of the big emitters, not us; it is not within our scope" (Nyaga, interview). In addition to this, George Karabo, a Risk Analyst from Kenya Commercial Bank (KCB), revealed that even though the bank provides financing to small scale farmers who are affected by climate change, their financing strategy was structured in such a way that the bank is not exposed to the farmers risks. For example, in their contractual agreement, the bank collected the farmers' loan repayments directly from the buyers such as the Kenya Tea Development Agency after the farmers sent their yields.

6.1.2. Collective self-regulation

As the case with private self-regulation, multinational and large listed companies are mostly active in collective self regulation. At the global level, in addition to the being a member of the Equator Principles, Standard Chartered Bank is a member of the UNEP Finance Initiative (UNEP FI) working group on climate change. The initiative is a partnership between UNEP FI and over 200 financial institutions, including banks, insurers and fund managers with the aim of defining and disclosing best practices on responsible financing and share information (tools, projects, methodologies and

metrics)" (UNEP, 2007). As a partnership of institutions with financial clout, the UNEP FI has often been used as a platform to influence public regulation. The UNEP FI Climate Change Working Group has always had a strong presence at the annual conference of parties (COP) as part of the UNFCC and Kyoto processes. Through the UNEP FI, the financial institutions have been able influence the design of carbon markets; the role of the insurance sector climate change adaptation and the designing and deployment of public support mechanisms aimed at mobilising private finance. In addition to this, UNEP FI releases an annual declaration on climate change ahead of the G8 summit. Whilst UNEP FI is a platform for sharing information and setting carbon finance standards, the lack of long term regulatory certainty often compels the partnership to be involved in public regulation. This is illustrated in Standard Chartered Bank's response, "Our key message is that although financial institutions should be taking a more proactive role, an absolute prerequisite is strong government leadership on adaptation and mitigation measures. In order for market solutions to thrive government has to provide us with the necessary regulatory architecture" (Standard Chartered Bank strategist, interview).

The UNEP FI is also responsible for designing instruments and guideline which help financial institutions in carbon finance. In 2007, Standard Chartered committed US$ 10billion over five years to finance renewable energy projects in Kenya and Africa. The World Bank reports that Africa emerged as a significant newcomer in the carbon market, accounting for 36 million tons or 21% of post 2012 CERs (World Bank, 2012). However, UNEP FI noted that the major barrier to further unlocking private investment and finance for renewable energy in Africa was the absence of national policy and targets which provide the backbone of any country's overall renewable energy strategy and framework within which incentive mechanisms, such as feed in tariffs or quotas are placed (UNEP, 2011). As result, one of the respondents argued that the UNEP FI platform would be much more "richer as a grouping" if national governments, particularly from developing countries could participate. This allows for their greater involvement in designing carbon markets. As part of the plans to engage the government, Standard Chartered Bank organised a workshop with the World Economic Forum in collaboration with the Kenyan government Climate action Plan, UNEP FI, the UK Capital Markets Climate Change Initiative and the US National Renewable Laboratory with aim of identifying critical bottlenecks to financing clean energy in Kenya and to design solutions where public finance can help unlock private finance.

Within the food and drink manufacturing sector, Unilever is part of the sustainable Agriculture Initiative (SAI) Platform which supports the development of sustainable agriculture among its participating members. Unilever launched the SAI in 2002 together with Groupe Danone and Nestle

with the aim of jointly developing sustainable agriculture principles and standards through the assessment of practices and experiences. As part of the rule setting process, the SAI Platform involves the conceptualising of new agricultural methods such organic agriculture which relies on ecosystem management and favours the “agronomic, biological and mechanical methods as opposed to using external agricultural inputs such as synthetic fertilisers”. This helps in the adaptation to the impacts of climate change because organic agriculture maintains the structure of the soil, therefore, in the event of climate change related flash floods the rate of soil erosion is significantly reduced. In addition to this, the SAI provides guidelines and support to integrated water management particularly in the Rift Valley region which has experienced droughts since 2002.

According to the Unilever branding Director ”the platform’s priority is on creating the right mindset for the implementation of sustainable agricultural practises and to cooperate with producers in order to find solutions instead of applying a top-down approach” (interview). This tends to stimulate participation with the supply chain, although within the boundaries of the platform and create opportunities for learning and upgrading to more sustainable agricultural practises. Furthermore, to ensure that their supply chain was integrated into the SAI, Unilever partnered with the Rainforest Alliance to certify their estates and those of smallholder farmers. The certification process was more of a strategy to gain a “first mover advantage” in the market as their sustainable certified products can easily be recognisable by customers in the stores. Moreover, the certification enhanced the reputation of Unilever as it increased the visibility of their products among customers.

Through the Sustainable Agriculture Initiative in Kenya, Unilever plays an important role as an “inspector” within its tea supply chain by implementing the Sustainable Agriculture Initiative (SAI) codes of practice. Even as an “inspector”, Unilever collectively monitors the implementation of the SAI set rules along its supply chain in partnership with other non-state actors. Through this collective partnership, Unilever utilizes their different capabilities to receive and understand the signals about the changing climate in tea growing areas in Kenya. According to Margaret Mwauri, Unilever Tea Kenya (UTK) Brand Building Director, “we know from talking with our tea suppliers that climate change is already affecting them, and we are keen to understand the issues and opportunities in detail” (interview). As part of its response to the SAI set rules, Unilever developed its sustainable agriculture standards focused on broad based environmental and social issues. In Kenya, Unilever Tea focused on the production of sustainable tea along its supply chain. Since Unilever is vertically integrated in the tea value chain (that is, the production and processing, trade, blending and packaging, marketing and selling) they have more capabilities to influence the tea value chain. The SAI is part of the global strategy to change the behaviour of the supply chain, particularly the

400 000 smallholder farmers in rural Kenya to produce sustainable tea. To ensure that the supply chain complied with the set rules in the SAI, Unilever partnered with Rainforest Alliance to certify the suppliers. In addition to Unilever's agricultural standards, Rainforest Alliance also used the standards by the Sustainable Agriculture Network[10] in the certification process.

As the case in many instances, these supply chain transformations are often met with scepticism within the company. In particular, it was hard for the brand team to explain how they were going to pay a premium to growers for sustainable tea while keeping the retail price unchanged. According to the critics, if the consumers were not willing to pay more for sustainable tea, it meant the cost would be absorbed in the margins and affect profits. In response Margret Mwauri, Unilever brand director explained that "the solution lay on the income side since additional costs in the supply chain could be recovered through growth in market share" (interview). In addition to the internal scepticism, Unilever also faced the threat of competitors free-riding on their initiative. There are risks that once certified, producers could decide to sell the tea to other companies.

The challenging part in Kenya was to reach the large base of over 500 000 smallholder farmers. This means that Unilever and Rainforest had to identify a partner to carry out the certification of the farmers and build their capacity to implement the sustainable agriculture strategy. As a result, in 2006, Unilever and Rainforest partnered with the Kenya Tea Development Agency (KTDA)[11] for a new pilot project encouraging Kenya smallholder tea growers to adopt sustainable agricultural practices resulting in the certification. The pilot project was called the Farmer Field School (FFS) project adopted a "leaner-centred approach, which meant that farmers carried out "hands on" observation, experimentation and evaluation" of the sustainable agriculture techniques linked to the SAN standards (KTDA, 2009). Extension officers, researchers and external participants acted as facilitators. "Learning actively and practically gave farmers the independence and confidence to address challenges and introduce changes in their own farms" (Mbadi, interview). To assess the project to ensure if the farmers were making progress, KTDA surveyed participating farmers alongside non-participating farmers, and comparing the answers both groups gave.

[10] The Sustainable Agriculture Network is a coalition of independent non-profit conservation organisations that promote the social and environmental sustainability of agricultural activities by developing standards (http://sanstandards.org/sitio/)

[11] The Kenya Tea Development Agency (KTDA) acts as an agent and buyer for most of the tea grown by small-scale growers, making up over half of the tea exports from Kenya.

At the national and local level, Total Kenya is involved in the "ECOChallenge" an initiative that strives to help sustain the environment by bringing people and organisations together to plant trees. The Total EcoChallenge provides a major national platform for encouraging and driving tree planting. Whilst Total participates in global initiatives to combat climate change, for example, the Global Gas Flaring Reduction Partnership, these collective private sector initiatives do not contribute to climate change governance in Kenya. Even though tree planting helps in carbon sequestration, the ECochallenge is more of a public relations initiative by Total Kenya. At the national and local level, many companies also partner with NGOs in tree planting initiatives. Tree planting is a common norm among most large national listed companies suggesting that it requires less resources and effort to implement. Furthermore, companies which have tree planting initiatives extensively report these activities on the websites and annual reports indicating that it enhances their reputation.

With regard to smaller companies with national or local operations (Family bank; Kuguru Foods and PZ Cussons) there is no evidence of their involvement in collective self regulation. It is very evident from the research that NGOs in Kenya are more involved in climate change governance, particularly, adaptation than the private sector. The nature of NGOs allows them to be actively involved with vulnerable communities at the local level. In Kenya this enables them to understand and learn the climate change vulnerabilities of pastoralists in Northern Kenya who are most likely to be affected by the effects of climate change related droughts (IRIS, 2010). Climate change forecasts predict that Northern Kenya is one of the areas that are going to be most affected by climate change and the pastoralists' support system comprising of livestock and natural resources is very prone to climate variability (Luseno *et al*, 2003). On the other hand, many business firms, predominantly, the less energy intensive sectors do not face any direct threats or risks from climate change. Hence, they are unable to make sense of the ecological landscape. However, NGOs "ecological sensemaking capabilities" entails that they play a crucial role "in bringing the voice of vulnerable communities with whom they work with to the attention of policy makers" (Opondo, interview). As a result, there are several collective platforms led by NGOs such as the Kenya Climate Change Forum; Forest Action Network and the Kenya National Federation of Agricultural Producers which allow them to collectively contribute to climate change adaptation in vulnerable communities. In many developing countries, collective partnerships between NGOs and the private sector are strengthening. However, challenges exists in fostering these partnerships because the relationship between NGOs and the private sector can be combative, with NGOs focusing on monitoring and campaigning against the private sector activities (Barbara Stocking, Oxfam, interview).

6.1.3. Co-regulation

At both the global level, none of the case study companies were directly involved in sharing responsibilities with regulatory agencies to set and implement rules to mitigate or adapt to the impacts of climate change. According to a Ministry of Environment regulator "the challenges for engagement of business remain high because there are high concerns over costs of adaptation and mitigation" (interview). However, the government has been making efforts to engage the private sector, particularly, in renewable energy financing and the carbon markets. The government hired a carbon credits advisor, Camco Advisory Services to raise private sector awareness of the impact of climate change. The company, contracted by the office of the Prime Minister and the Ministry of Environment will train personnel in the private sector on project implementation, verification and negotiating carbon credit transactions to increase sales of carbon credits. At the end of this process a Public-Private sector climate change forum will be established to act as the driving force to educate, encourage, regulate and manage the creation of a carbon credit market in Kenya. Alexander Alusha, the climate change policy advisor in the Prime Minister's office noted that the Forum "will among other things review existing regulatory frameworks, identify capacity gaps in public and private sectors to place enabling infrastructure and attract finance under the CDM or voluntary carbon markets" (interview). Therefore, the success of the co-regulatory forum will hinge on the uptake of CDM projects by the private sector, particularly, the banking and finance sector. Currently, there are 16 registered CDM projects in Kenya, which is the second highest in Africa (UNFCCC, 2013).

At the national level, the manufacturing sector has been able to forge a co-regulatory initiative with the government through Energy Efficiency Accord similar to that in South Africa. Even though Kenya still has a lot of uncertainty with regard to explicit climate change regulations and institutions to drive companies to contribute to climate change governance, the Energy Efficiency Accord (EEA) spearheaded by the Kenya Association of Manufacturers' (KAM) Centre of Energy Efficiency and Conservation (CEEC) has played an important role in supporting companies, mainly manufacturing companies to implement energy efficient initiatives which have the potential to reduce emissions. The Accord forms an agreement between the respective manufacturing companies, KAM and the Department of Energy for the large industrial consumers to voluntarily commit to significant energy savings of between 5% and 15%.

Whilst the main objective of the Energy Efficiency Accord is to assist signatories become energy efficient, companies still had different motives for signing up. A financial director at PZ Cussons

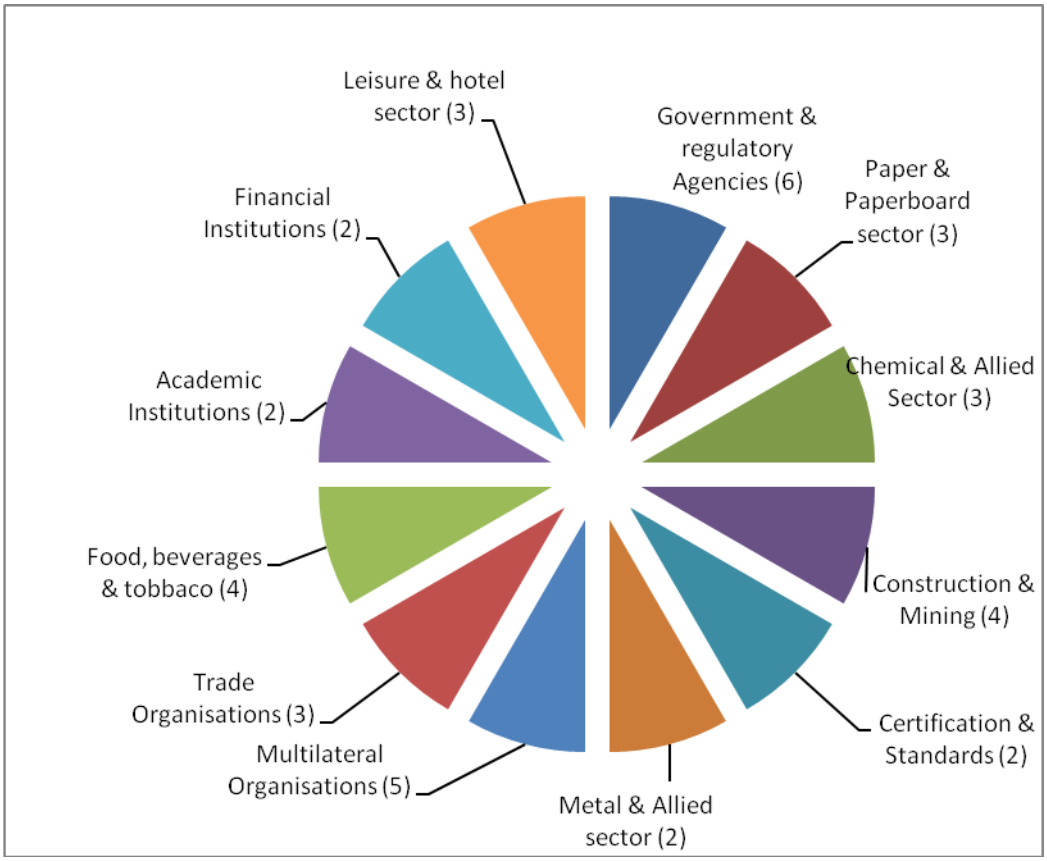
revealed that “participating in the KAM CEEC energy efficiency audits helps us access finance for our projects to replace inefficient machines (Kamani, interview)”. In contrast ARM which is a larger manufacturing company sees the EEA as an opportunity to be “in direct contact with the government and honestly discuss the impacts of their energy policy on the private sector”. On the other hand, a Mumias Sugar engineer argued that the “Accord and the related energy efficiency initiatives are a dynamic process that facilitates the exchange of experiences. So, we see it as a network allowing participating companies to meet up and develop solutions to the energy and environmental challenges by sharing experiences with others who are faced with similar challenges” (Kaitani, interview). Even though the companies do not seem to share sensitive information, the networking allows companies with limited capacities to mimic companies which already have implemented successful energy efficiency programs. For example, a lot of sugar milling companies are engaged in utilising the residue from sugarcane to generate renewable energy though cogeneration. However, as the case with EEA in South Africa, the mimicking undermines the companies’ potential to develop more innovative strategies.

The Energy Efficiency Accord, as one respondent alluded, “is the first of its kind in the country and is motivated by gains made through the KAM Energy Efficiency project which demonstrated that industries can save between 30%-40% of their energy consumption”. The KAM Energy Efficiency programme saves about Ksh2billion [US$24m] annually with potential to save over Ksh 7 billion [US$84m] in electricity and over Ksh5billion [US$60m] on fuel (KAM, 2011). The Energy Efficiency programmes gained momentum following the acute shortages of power since the 1990s as a result of the impact of drought on hydroelectricity generation which accounted for 60% of Kenya’s power (Karekezi and Kityoma, 2005).

In 2001, following acute power shortages which were undermining production for manufacturers, KAM CEEC initiated an energy efficiency programme in which they carried out energy audits for KAM members in cooperation with various actors as part of a Global Environment Facility-KAM (GEF-KAM) energy project. At the onset of the programme, only large manufacturing companies such as Athi River Mine; Mumias Sugar and East Africa Portland Cement participated in the energy audits because they were the most affected by the power shortages. As a result, these large manufacturers have been crucial in sustaining the energy audits and energy efficiency programme which was later developed into the Energy Efficiency Accord. According to Hillary Rono “without the large manufacturers the programme would not be what it is today….especially Athi River Mining. Their engineers helped as a lot in the initial audits and training other engineers. When we rolled out the programme in Kisumu and the coast they were there with us, at the road shows……” (interview)

The support of large companies in energy efficiency could help explain their role as “collective institutional entrepreneurs” in developing the Energy Efficiency Accord (Wijen and Ansari, 2007); and their capability to attract other smaller manufacturers to sign up to the Accord. Although the KAM CEEC is the coordinating agent to the implementation and launch of the Accord, the process was beyond the capability of individual actors because it required resources and capabilities which KAM could not provide. Even though KAM and the Department of Energy possessed the coercive and normative drivers to initiate the Energy Efficiency Accord, there were other actors who possessed critical resources and capabilities which were crucial to the development of the Accord. Hillary Rono explained that “Athi River Mine; other big manufacturers were very helpful in bringing the other smaller companies on board, they speak the same language. But our main challenge going forward is bringing on board other sectors” (interview). In addition to this, GIZ, AFD and DFID supported the two year process with technical and financial support and linking KAM with other networks and stakeholders such as the South African National Business Initiative which had implemented a similar Accord in 2005 (see figure 6.1). In his remarks at the launch of the Accord, Mr Mamud, the Deputy Minister of Energy lauded the Energy Efficiency Accord saying it “exemplifies a new era of cooperation between the Government and the private sector and is certainly the preferred alternative to rules and regulations”.

Figure 6.1: Field Level Actors defining the Energy Efficiency Accord



Currently, the EEA does not include other sectors other than the manufacturing sector. Mary Kiema head of KAM's CEEC explained the reason behind the absence of other sectors in the EEA:

> "at the moment we are not involving other sectors because there so many measurement complexities with different sectors with regard to audits . The assessment of the energy efficiency accord in South Africa showed that sector dynamics in terms of energy use are different making energy efficiency determination more complicated in some sectors than in others.....the operating environments in some sectors keep on changing thus requiring a need for adjusted baselines. So after we learn some lessons in implementing our Accord then we will start looking at using a sectoral approach could in measuring and verifying energy efficiency in order to incorporate sector dynamics" (interview).

Furthermore, other sectoral institutions have not shown any keen interest in climate change or energy efficiency. Despite being represented by the Kenya private Sector Alliance (KEPSA), other trade associations such as the Kenya's Bankers Association did not engage their sector to participate in the energy efficiency.

In an effort to encourage other sectors, particularly, the less energy intensive sectors, to join the Accord, KAM in partnership with various actors introduced the Energy Efficiency Awards to market the programme and encourage other companies to join in. Furthermore, the CEEC partnered with

the University of Nairobi Msc Engineering students through internships to carry audits so as to increase the number of engineers to carry out audits in other sectors. According to a KAM CEO "the intention is to have students from Polytechnics to come and carry out these energy efficiency initiatives" (Maina, interview). At present KAM is in discussions to expand the internship programme to include universities such as Jomo Kenyatta which has a biogas project which the KAM representative said could be valuable to many manufacturers in the future.

6.2. Motivations to the climate change governance options

6.2.1. Motivations to self-regulation

Whilst most manufacturing companies are driven by the economic incentives and energy supply concerns to implement the Energy Efficiency Accord guidelines, for a lot of less energy intensive companies their energy efficiency initiatives are driven by reputation. Since less energy intensive sectors such as banking and finance do not emit any recognisable GHG emissions they don't face any regulatory pressure to reduce the emissions. Therefore, Standard Chartered Bank's effort to implement energy efficiency measures in their buildings can be seen as a way to enhance their reputation. This is illustrated in Standard Chartered Bank's strategist's statement, "As a large player in the banking sector we are often scrutinised and our image is on the line. Everyone expects us to do something. If we don't do anything we are seen as an irresponsible bank even though none of the banks in Kenya are doing anything on climate change" (Standard Chartered Bank strategist, interview).

Furthermore, larger firms are more likely to receive more attention than smaller firms. This explains why Standard Chartered Bank, Unilever, Athi River Mine and Mumias Sugar reported their climate change contributions in their annual reports with different levels of intensity. These large firms also operate in competitive environments; hence their reputation is focused on responding to the actions of other firms in the same industry. Most leading multinational firms report their climate change and sustainability contributions often in separate sustainability reports. Hence, these firms help define the rules, norms and beliefs surrounding sustainability reporting, and thus set the expectations for other firms' stakeholders. Therefore, these leading firms of which Unilever is one of them set the reporting expectations which determine the reputation of other firms. This was illustrated in Standard Chartered Bank's head of strategy's statement

> "Standard Chartered Bank is a global organisation operating in a very competitive banking environment. Nowadays with Africa as an emerging market, so many financial institutions want to take root in this market. As a result we have to benchmark ourselves with industry leaders on all aspects of banking and finance. .....and reporting is one of our strengths because we have to communicate with our stakeholders...over and above that it is now an industry norm" (interview).

As a result, companies took into account the reputation of the collective industry in their sustainability reporting. The Standard Chartered Bank corporate governance manager seemed to indicate that due to the fact that communication with customers is an important strategy in competing globally with other leading firms in the industry they tend to report comprehensively. Normally energy intensive sectors which emit significant amounts of GHG emissions will be expected to face more collective reputational scrutiny than other industries which could force them to report on their emissions and climate change contributions. However, it is evident that local companies regardless of sector do not seem to face any reputational scrutiny for not contributing to climate change governance. According to Judy Njino this could be attributed to the fact that "climate change is not a concerning issue to many urban Kenyans for them to go to the extent of pressuring companies to respond to it....their immediate life is focused on addressing socio-economic issues" (interview).

This is different for multinationals, for example, in the banking sector, the repercussions of the actions of a single firm can have profound effects on all firm working in the same industry[12]. This explains why Standard Chartered and Unilever would more likely respond to global challenges which affect their industries because the actions of a single firm can destabilise the entire industry.

> "Whenever there is a scandal at a global bank you will be surprised at the number of calls we get. There is a media frenzy on the issue. They look for a reason to tail all of us (the industry) with the same brush" (interview).

Furthermore, multinationals are more visible than local companies which subjects them to more scrutiny, resulting in them being more proactive regarding private self regulation. What is very particular with Unilever is that they do not simply view their private self regulation initiatives relative to firms in their industry. Instead, their marketing director indicated that they compare their contributions, particularly sustainability reporting with that of other leading firms in other industries. Unilever does this so as to maintain their global leadership status on sustainability issues. This implies that Unilever consider their reputation to also depend on what other leading sustainability

[12] This was the case for the banking industry during the financial crisis in 2008. The collapse of Lehman Brothers had considerable impact on the global financial system. It resulted in the introduction of stricter regulations for the banking industry.

firms in other industries are doing. Stakeholders will judge them in comparison with the “best of the best”.

6.2.2. Motivations to collective self-regulation

At the global level, Standard chartered Bank has been participating in the UNEP FI mostly because they see carbon trading as an activity which can add value to their functions. Even though the company recognizes the reputational gains of participating in such collective initiatives, the opportunities which arise as a result of the UNEP FI have the potential to provide an ”attractive return”.

> “Investment banks want fees for selling advice and arranging capital, fund managers want to increase assets under management and to achieve superior risk adjusted returns for investors……so for us climate change has to positively impact on these core industry drivers to enhance a willingness for banks to be involved…….with UNEP FI we are seeking opportunities to boost carbon trading in Africa and we see that adding value to our functions”. (Standard Chartered Bank strategist, interview)

Therefore, there is an economic driver in engaging in the UNEP FI as it enables banks to identify opportunities in carbon trading. However, several respondents indicated that the policy uncertainties globally regarding the Kyoto Protocol and in Kenya was a barrier for them to create value from carbon trading. Currently, there have been no commitments or agreement from policy makers on emission reduction targets. The Standard Chartered Bank strategist indicated that emission reduction targets provide validation for emission trading; the various GHG market support services and the pursuit of low carbon intensive technology solutions. These market based activities will lead to the establishment of a “price” for carbon which is a prerequisite “for GHG assets and liabilities to be included on the balance sheet and for strategic planners to estimate the financial value of carbon in project development and capital spending situations. At this point carbon becomes recognized by the bank as a factor that needs to be incorporated into all calculations of equity value, credit risk, risk management and project viability. In other words, carbon becomes recognized as another determinant function of financial value (interview).

Whilst participating in carbon trading schemes and platforms seem to add value to Standard Chartered Bank’s functions, a lot of local banks do not see the value of participating in carbon trading. The Risk Analyst from Kenya Commercial Bank explained that carbon trading exposes them to a lot of financial risks. Following the uncertainty regarding the Kyoto protocol and the lack of

support to the EU Emission Trading Scheme by member states[13], the price of a permit to emit carbon dioxide fell 40% at one point in June 2013 to €2.81, far from the record high of €32. Therefore, local banks avoid carbon trading because it exposes them to financial risks which they cannot share with the local market, ultimately undermining their bottom-line profits and market share. Furthermore, unlike the global carbon trading market which Standard Chartered Bank partakes in, the local carbon trading market in Kenya and Africa as a whole is not regulated and does not have proper institutional support which further exposes the first movers. According to a carbon market specialist, John Fay "local banks in Kenya have so many other places to make more money which are less riskier that carbon trading. Today carbon trading remains a backwater of the global commodities markets and its not even included on the bench market Dow Jones UBS Commodity Index" (interview). However, at the global level, most of Standard Chartered Banks' global competitors are signatories to the UNEP FI initiative and participate in carbon trading, therefore, their competitive position is maintained.

Whilst multinational banks are starting to recognize the opportunities of climate change, there is still a lack of perceived materiality of the issue among the local banks in Kenya. As one responded noted "most financial institutions in this country still have this long-standing conviction that companies' environmental performance are at best irrelevant and at worst injurious to companies' bottom-line financial performance" (Interview). Hence, they do not see the financial risk or value in collective initiatives which enable them to participate in carbon trading.

Despite these financial risks in the banking sector, Unilever's adoption of the role of "inspector" is driven by the asset specific relationship with their supply chain. The fact that they have a high "asset specific" relationship with their supply chain compels them to find sustainable agricultural practices in collective partnerships such as the SAI. Due to Unilever's vertical integrated in the tea value chain (that is, the production, and processing, trade, blending and packaging, marketing and selling) it is difficult if not impossible for them to replace or disentangle the supply chain. In addition to this, the tea plantations in the Rift Valley and Central province are one of the few locations in the world with the ideal tropical climate, red soils and well distributed rainfall ranging between 1200mm to 1400mm per annum. Therefore, Unilever cannot engage in a "race to the bottom" because they have made long term investments in the tea estates and over 400 000 smallholder farmers. For the smallholder farmers, Unilever represents their sole buyer for their tea. As a result, in the face of

[13] In June 2013 the freefall in the EU Emission Trading scheme was prompted by the energy and industry committee of the European Union parliament opposing a proposal to delay the release of 900 million future permit. This would limit supply in the capped market and therefore support the carbon price

serious physical risks from climate change, Unilever must learn to manage the risks by implementing the SAI guidelines and certifying the farmers to ensure that they practice sustainable agricultural practices. For other companies, for example, local banks which have low asset specific relationships often collaborate with a chain of suppliers around the world and yet maintain their distance and their ability to drop suppliers and pick up another fairly easily. Furthermore, banks can easily raise capital from global investors and do not have to rely on investors or customers in a specific location. Hence, they can reduce the risks of too much specialization or dependence on a specific set of investors by raising capital on global stock exchanges which gives them more flexibility.

The Sustainable Agriculture Initiative also enabled Unilever to learn and share information. This was illustrated by Unilever's brand manager, "In a competitive industry like ours there are few areas of consensus that vary across specific issue. Within this industry there seems to be a lot of agreement about the physical impacts of climate change and the appropriate norms and standards which need to be adopted" (interview). Due to this sense of agreement over the need to adopt common standards of agricultural practices, the food and drink manufacturing sector is more likely to adopt collective self-regulatory standards. These collective agreements including the UNEP FI in the banking sector also provide members with training, guidance, technical assistance, and information on sustainable practices to its members.

In addition to economic incentives, the issue of reputation was very apparent in collective efforts by companies to engage in tree planting activities. It was evident in the research that the local banking sector which has direct transactional relationships with consumers is more likely to partner with civic organizations which are considered to have good community relations and reputations. The local Kenyan banks often exploit these partnerships to market themselves as "good corporate citizens". The risk analyst from Kenya Commercial Bank noted that reputation matters in the banking sector because their relationship with customers and other businesses relies on trust. Reputational gains were clearly an important driver for Total's Eco-Challenge tree planting initiative. The marketing executive at Total Kenya noted that "we are often seen as a profit making entity who doesn't do anything for the community. The Eco-Challenge has gone a long way in changing that perception and improving our reputation". The Eco-Challenge initiative also deflects pressure from environmental activists and the society who would normally pressure the government to regulate the industry. Whilst the tree planting partnership is more of a 'green washing" initiative, it creates an impression that they are doing something to contribute to climate change governance.

6.2.3 Motivations to co-regulation

The manufacturing companies' participation in the Energy Efficiency Accord (EEA) is mainly driven by economic and energy security concerns. The pursuit of profit or competitiveness of energy intensive manufacturing companies highly depends on the availability of reliable and affordable energy. However, the government is unable to provide energy at competitive prices forcing companies to step in by voluntarily committing to reduce their energy consumption. Kenyan manufacturing companies were exposed to competitive low energy prices when Kenya joined the East African Common market Protocol in July 2010, a regional trading bloc involving Rwanda, Tanzania and Uganda. This intensified competition for exporting Kenyan manufacturing companies. KAM Chairman revealed that "Kenyan manufacturers pay up to US$0.2/KWh, whilst our counterparts in Uganda pay US$0.09/kWh. These high power costs have eroded our competitiveness, so we need strategies to address this" (Igathe, interview). Therefore, implementing the guidelines in the EEA could provide the companies with an option to cut operational costs.

In addition to the economic incentives, the government has struggled to provide governance in the supply of secure energy for the manufacturing industry. Kenya has suffered a series of droughts in the past decade which has affected the hydroelectricity generation which accounts for 70% of the country's electricity sources (Gratwick and Eberhard, 2008). Up until 2002 KENGEN was the sole provider of electricity in Kenya and at one point its hydropower generation capacity fell to 20% (Wambugu, 2008). The power shortages resulted in prolonged blackouts and high cost emergency thermal electricity to meet the shortfall in power supply. The drought induced power cuts cost the economy about 1.45% of GDP which translates to US$442 million. KAM CEO, Betty Maina described how these power cuts affected one of the manufacturers:

> "One of our manufacturers had molten aluminium solidify in that short period the power was out. To melt it again it took another 7 hours with a 10% loss of the metal and added fuel costs all totalling Sh250 000, a figure that doesn't include overhead costs. The company is being forced to buy a heavy duty generator costing 10 million"(interview)

As a result of the uncertainty surrounding energy supply in the country, manufacturing companies were forced to implement energy efficiency measures linked to the Energy Efficiency Accord.

The shadow of anarchy caused by the unavailability in secure energy supplies have resulted in proactive policy efforts by the government to attract the private sector to partner public actors in

setting and implementation of rules in the provision of renewable energy. Whilst local private actors have been slow to respond to the government's overtures, multinational banks and multilateral institutions have been engaging with the state in financing renewable energy. The introduction of the Feed in Tariff (FiT) Policy and the scaling up Renewable Energy Program (SREP) provided some levels of clarity to motivate the multinational actors to partner with government in financing renewable energy projects. The FiT Policy was introduced in Kenya in 2008 and revised in 2010 to accommodate additional renewable energy sources. The FiT Policy has elicited a total of 49 expressions of interests from potential investors to develop wind, biomass, hydro, geothermal, biogas and cogeneration projects. The NCCRS Action Plan estimates that the country will require up to US$45 billion by 2030 to develop 21GW of renewable energy.

Despite the absence of explicit regulation on climate change mitigation and adaptation which is being implemented; the government has been proactive in implementing the FiT policy because it is perceived to be intrinsically linked and supporting the pro-growth policies such as the Economic Recovery Strategy (ERS) and National Development Plan (NDP). However, the National Climate Change Response Strategy (NCCRS) is not perceived to be directly linked or supporting government's intense socio-economic growth orientation. Therefore, the private sector is more inclined to respond to incentives and priorities communicated through the national development strategies. Whilst climate change mitigation and adaptation efforts are often perceived to be in conflict with economic development policies, responding to climate change might actually support economic development. This was illustrated in Ufadhili Trust Executive Director, Mumo Kivuiti remarks:

> "our policies are geared towards achieving economic growth which is okay considering the recession we are in right now and levels of poverty in Kenya. The problem is that there is no balance in economic policy. We need to understand how we can grow differently. How do we ensure that we have growth that is inclusive and sustainable? That is what we are talking about. How can we reduce poverty with the type of technologies and solutions that are also good to the natural environment? That is the equation that we must go after. So, our policies need to support the innovation of energy use, water utilisation……..If that does not happen climate change and many environmental impacts will pose a serious risk to the economic development which the current polices are trying to fix"(interview).

Whilst the FiT policy and other government overtures such as the Public-Private sector Climate Change Forum have attracted multinational banks such as Standard Chartered Bank and other international Development Finance institutions, the local banks have been lagging behind. The Chairman of Kenya Commercial Bank alluded to the financial risks associated with renewable energy and carbon finance as a reason for the absence of local banks.

"there is a need for local companies to be supported financially to develop projects that ease carbon emissions. Unfortunately, there has been no credit facility from the local banks to the private sector to tackle climate change partly because of high financial risks for some of the projects and the fact that the banks have no policy guidance on how to integrate climate change into their banking and lending models"(quoted from Standard newspaper, 12/10/2011).

6.3 Conclusion

This chapter discussed the main climate change governance contributions by the case study companies in Kenya. The case study findings confirm the results from the content analysis which indicate that a lot of companies in Kenya, particularly, the small and less energy intensive companies do not contribute to climate change governance. However, some of the case study companies contribute to climate change by self-regulating themselves mostly through implementing energy efficiency initiatives.

Table 6.1: Modes and motivations for fostering non-hierarchical climate change governance in Kenya.

Contributions	**Mitigation/ Adaptation**	**Companies**	**Main Drivers & constraints**
Self-regulation	Mitigation	Standard Chartered Bank; Unilever; Mumias Sugar; Athi River Mine; PZ Cussons	Reputation
Collective self-regulation including private sector adoption of role of "inspector"	Mitigation and adaptation at the local level	Standard Chartered Bank; Unilever; Total Kenya	Economic incentives, reputation, asset specificity
Co-regulation	Mitigation	Standard Chartered Bank; Mumias Sugar; Athi River Mine; PZ Cussons	Shadow of anarchy, sectoral institutions

Furthermore, large firms such as Standard Chartered Bank and Unilever engage in collective self-regulating through partnerships at the global and local level. Through facilitation within the Sustainable Agriculture Initiative (SAI), Unilever adopts the role of the "inspector" within its supply chain. This initiative supports smallholder farmers to adapt to climate change by adopting sustainable agricultural practices. Finally, other companies, particularly, energy intensive companies

engage in co-regulation by sharing governance responsibilities with the state on an energy efficiency accord.

The companies which engage in self-regulation are mostly driven by reputation concerns. The firms assume that by implementing energy efficiency measures internally and reporting their sustainability activities they will burnish their reputation. Reputation is also a major driver for multinationals engaging in collective self-regulation. The reputational concerns tend to enhance the competitiveness of the firms. Unilever's role as an "inspector" within its supply chain is mainly driven by the high level of asset specificity the firm have with its supply chain, particularly, the smallholder farmers. Finally, co-regulation through the Energy Efficiency Accord is driven by the Kenya Association of Manufacturers. More so, there is a perception among the companies that the government is unable to provide secure energy.

CHAPTER SEVEN
DISCUSSION AND CONCLUSIONS

The overall aim of this study was to provide an understanding of how and why companies in areas of limited statehood contribute to climate change governance. In order to do so, the study set out to address the following research questions: (1) what are the predominant climate change governance contributions adopted by companies in areas of limited statehood? (2) What are the drivers or constraints that give rise to these governance contributions? To investigate these questions, a content analysis survey and 18 case study companies were analysed in South Africa and Kenya, countries with varying levels of limited statehood. This chapter provides my interpretations and analysis of the findings from the content analysis and case studies. In addition to this, the chapter provides a conceptual discussion with reference to the literature on how and why companies contribute to climate change governance in areas of limited statehood.

7.1. Private sector contributions to climate change governance in areas of limited statehood

My analysis of the content analysis and case studies indicates that the climate change governance contributions of firms in South Africa and Kenya can be categorised into four clusters (laggards, emergent planners, efficiency drivers, visionaries). The main governance contributions within these clusters include self-regulation, collective self-regulation, co-regulation and influencing regulations. Most of these governance contributions focus on mitigation aimed at reducing the GHG emissions in comparison to adaptation. The section below provides a discussion of the governance contributions within the clusters.

Laggards

Evidence from the research indicates that there is a generally low level of response to climate change by most companies in Kenya and South Africa. The content analysis indicates that 84% and 61% of the sampled Kenyan and South African companies, respectively, represent the “laggards” which do not have any recognisable climate change governance contributions or adopt primarily cosmetic initiatives (table 7.1).

Firms predominantly in sectors with “low issue salience” such as banking and financial services dominate this cluster. These “low salience” sectors have less institutional pressures to contribute to climate change governance mostly because of the low negative externalities from their operations. As a result, they do not intentionally engage in any specific climate change initiatives. Those that

make any contributions mostly focus on mitigation efforts which take less effort and time. These cosmetic initiatives have more emphasis on energy efficiency activities which do not reduce GHGs significantly. Furthermore, the intentionality of these activities is relatively unclear because the energy efficiency measures are motivated in the first place by cost savings. Due to the fact these firms do not have a clear intention to contribute to climate change governance they do not account for the GHG emissions reduced from these measures.

In the research, there are some "laggards", for example, Kenya Commercial Bank and Total Kenya which are exposed to reputational risks, mostly driven by brand name and market orientation. As a result, these firms engage in collective efforts, mostly tree planting which does not significantly contribute to reducing the negative externalities associated with climate change.

These results shed light on the climate change governance contributions by the private sector in areas of limited statehood, particularly in a region such as Sub-Saharan Africa which has not featured prominently in management literature (Kolk and Rivera-Santos, 2013). The generally low responses by firms operating in areas of limited statehood may be contrasted to corporate mitigation contributions in areas with consolidated statehood, which have been characterised as featuring prominently in businesses' core strategies (Kolk and Levy, 2001; Eberlein and Matten, 2009; Weinhofer and Hoffman, 2010).

Emergent Planners

In both countries, there is evidence of a few "emergent planners" which are starting to engage in climate change governance through internal self-regulation. The 'emergent planners' in both countries are represented by a mixture of companies from different sectors. However, South African companies dominate the composition of this cluster (17%) compared with Kenyan companies (6.7%) (table 7.1).

Companies in this cluster have started to set targets and implementing standards and guidelines often developed through collective self-regulation and co-regulation initiatives. The firms internally implement these collectively agreed guidelines and standards on GHG accounting, energy efficiency and sustainability reporting. Sustainability literature indicates that these are initiatives which companies adopt as part of their early response to climate change (Pinkse and Kolk, 2009). Hence, these efforts mostly contribute to climate change mitigation because less effort and time is required (Börzel and Hamann, 2013).

As a first step to developing their climate change strategies, the “emergent planners” developed GHG emission inventories. A comprehensive GHG inventory was important in improving the firms’ understand of their emission profile, potential liability and exposure. “Emergent planners” which had moved beyond GHG accounting were starting to set emission targets. These emission targets were followed up by substantive climate change contributions, mostly, process improvement. In comparison to the “laggards”, the activities of the “emergent planners” were intentional and had some benefits for climate change mitigation.

In addition to this, there were some “emergent planners” who were active in sustainability reporting. Several authors (Kolk, 2004, 2002; Dierkes and Antal, 1986) have argued that most of the sustainability reporting is window dressing driven by public and government pressure and something that is likely to fade away when these forces recede, as was the case in the US in the 1970s. However, a combination of continuously high levels of institutional pressure and the forecasted severe impacts of climate change in Sub-Saharan Africa could mean that firms in South Africa will constantly face pressure to respond and disclose their socio-economic and environmental activities. Nevertheless, as discussed in the literature (Morimoto, 2007; Sarfaty, 2011; Lingenfelder, 2011), the research revealed that there is no strong correlation between sustainability reporting and performance. Firms, particularly those whose reputation is at stake, disclose climate change information which enhances their reputation and leave out information which has negative effects to their reputation (Eccles *et al,* 2012).

Table 7.1: An outline of the climate change governance contributions by the private sector in South Africa & Kenya

	Prevalence[14]	Self-regulation	Collective self-regulation	Co-regulation	Political activities to shape & influence policy
Laggards	Kenya (84.4%) South Africa (61%)	Cosmetic initiatives			
Emergent Planners	Kenya (6.7%) South Africa (17%)	Implementing internal process improvement initiatives and sustainability reporting in some instances. These internal initiatives are driven by collectively agreed rules			
Efficiency drivers	Kenya (8.9%) South Africa (10%)	Sustainability reporting; GHG accounting, target setting, reporting, process improvement(energy efficiency), internal transfer of emissions, carbon trading,	Partnerships with other non-actors, for example academia in research on energy efficiency technologies	Sharing governance responsibilities with regulatory bodies at the global and national level, for example, the Energy Efficiency Accord	Political activities to influence or oppose climate change policies
Visionaries	Kenya (*not present)*[15] South Africa (12%)	-Comprehensive mitigation and adaptation contributions[16] including activities highlighted above plus partnerships, e.g. developing climate friendly products and services - Transforming the business model to adapt to climate change	-Climate change partnerships at the global, national and local level -Adopting the role of "inspector"	Partner with international regulatory bodies, for example, the UN is setting and implementing rules, for example, UNEP FI, Global Compact	Political activities in partnerships with international bodies and associations to shape the direction of policy

[14] Based on the content analysis survey results

[15] Among the case study companies in Kenya, Unilever has the characteristics of a "visionary" but a cluster of only one company would not fulfil statistical requirements of the cluster analysis.

[16] These comprehensive responses include those implemented by "emergent planners" and "efficiency drivers"

Efficiency drivers

This cluster represents companies which have slightly more extensive governance contributions than the "emergent planners" (see table 7.1). In addition to GHG accounting and sustainability reporting, the "efficiency drivers" engage in co-regulation. At the national level in both countries, the government and private actors, mostly energy intensive companies engage in voluntary agreements focusing on energy efficiency. Through the Energy Efficiency Accord (EEA), energy efficiency targets are set in a collective decision process and the private sector is held liable for implementation. As highlighted above, companies implement these agreed energy efficient targets individually.

In both countries, industry associations play an integral part in monitoring the implementation of the EEA. Hence, firms with strong associative structures were more involved in the voluntary agreements. Literature discussing private actors' role in the provision of public goods indicates that "organizing in a business association is an important pre-condition for a possible commitment to self-regulation" (Hönke *et al, 2009*: 15; Ronit and Schneider, 2000; Porter and Ronit, 2006). Therefore, the involvement of the Kenya Association of Manufacturers (KAM) in Kenya and National Business Initiative (NBI) in South Africa in facilitating the implementation of the EEA was crucial in helping solve the collective action problem of energy security being faced by individual firms.

Whilst the EEA allowed for companies to reduce their GHG emissions through implementation of the energy efficiency guidelines, most firms' aim was to ensure energy security rather than contribute to climate change governance. As a result, most signatories to the EEA could not account for the emission reductions from the Energy Efficiency Accord. This case shows that the link between intentionality and action can be very tenuous. Therefore, the fact that companies engage in energy efficiency measures to cut costs and ensure energy security indicates that their intention to contribute to climate change mitigation is less obvious. Nevertheless, the fact that energy efficiency targets are mutually agreed between government and the private sector might increase the chances of firms meeting their commitments. Fulfilling the commitments on the energy efficiency targets ultimately results in the reduction of GHG emissions. More so, the presence of a shadow of hierarchy, particularly in South Africa acts as a driver for the companies to meet the energy efficiency targets. Furthermore, government incentives such as the carbon tax induce energy intensive companies to be proactive in reducing their GHG emissions through energy efficiency initiatives. However, as indicated in the research, in areas of limited statehood the state has limited capacity to monitor the implementation of regulations or ensure that the private sector meets the agreed energy efficiency targets.

In addition to co-regulation, some energy intensive "efficiency drivers" in South Africa have engaged in political activities, either to influence the direction of the regulations or oppose specific regulations. The research illustrates that some firms have often been co-opted by the state as part of government delegations in international climate change negotiations. Given the task complexity associated with climate change (Börzel and Hamann, 2013; Rind, 1999), governments increasingly incorporate business and NGOs as official members of their delegations because of the pervasiveness of these non-state actors on the issue. Both business and NGOs provide knowledge, expertise and legitimacy to these climate change negotiations. The presence of non-state actors in the Kyoto Protocol negotiations provides the private actors with better access to details of the negotiations. As a result, they have more influence in the setting and implementation of rules regarding GHG emission reduction and climate change adaptation. In Kenya, the private sector is also often invited by government to contribute to renewable energy policy formulation and implementation through multi-stakeholder forums.

In contrast to the above mentioned conciliatory nature of engagement between the state and the private sector, the research showed that in some instances energy intensive firms which are exposed to regulatory risks, particularly in South Africa engage in political activities to oppose and influence the direction of national climate change policy. The South African government has already set in place a clear climate change policy which needs to be implemented. In addition to the threat of a shadow of hierarchy, energy intensive firms continuously face pressure from civil society to contribute to climate change governance. Therefore, energy intensive firms use industry associations, for example the Energy Intensive User Group (EIUG) to lobby against stringent climate change regulations.

Many companies, including members of the EIUG, do not have a "denialist" approach to climate change, so they resort to using an information strategy in which they carry out research at times in collaboration with the government to steer policymakers in the direction of their most favoured policies. A case in point is the EIUG's research indicating that the carbon tax is not the best policy option for South Africa because it will adversely impact the economy and job creation. Whilst there are scientists and experts who are sceptical about certain aspects of climate change science, there is no clear evidence that energy intensive firms have gone the route of US firms of attempting to influence opinions of experts that have influence on the evolution of the issue. Instead, most of the firms' information strategies are collaborative in nature, mostly with government.

Nonetheless, the corporate political activities still involve direct lobbying of government to change certain aspects of a climate change policy, for example, the carbon tax. Through this strategy, energy intensive companies have been negotiating with the government to secure a cooperative approach in which the carbon tax is integrated with other approaches such as carbon trading. In addition, some of these companies have utilised constituency building strategies where they put advertisements or statements in the newspapers to assure the public that they are taking climate change seriously and are developing measures to tackle the problem. This strategy is aimed at increasing public awareness of their ability to tackle climate change in an effort to diffuse some of the societal and government pressure. Nedbank and Sasol used this strategy at the Kyoto Protocol COP17 summit in Durban South Africa in 2010. As an event that garnered significant media attention, these companies were heavily involved in marketing the event and hosting several workshops in an effort to increase public awareness of their commitment to climate change.

Visionaries

Finally, the "visionaries" cluster, includes companies which have more comprehensive governance contributions often including those adopted by "emergent planners" and "efficiency drivers". Most of the "visionaries" in the research are large multinational firms because they possess the required resources to engage in comprehensive mitigation and adaptation contributions. Their broad array of activities extends beyond the companies' boundaries and includes both mitigation and adaptation. As a result of the statistical aspects of the cluster analysis of the survey data, there are no "visionaries" in Kenya, while 12% of the sampled South African companies are in this group. Nevertheless, Unilever represents many traits of this cluster in Kenya. Most of the activities of the "visionaries" encompass collective self-regulation. Therefore, through collective self-regulation, the private sector in partnership with other non-state actors and at times international agencies collectively set the rules on how to reduce the negative externalities of GHG emissions and/or adapt to the negative impacts of climate change.

The "visionaries" participated in collective partnerships at the global, national and local level. At the global level the collective partnerships often involved international governing bodies such as the UN and the WBCSD which assist in setting and implementation of the rules. More often, firms participate in these collective initiatives with no monitoring and penalties. Nevertheless, there are initiatives such as the Global Compact which have a "naming and shaming" mechanism for companies which do not produce their progress reports. The intention of this "naming and shaming"

is to induce behavioural changes for firms do not adequately implement the collectively agreed rules. On the contrary, other collective initiatives such as the Sustainable Agriculture Initiative (SAI) which Unilever is a participating member allow for problem solving experience in which the private actors are heavily engaged. This collective initiative between food manufacturing multinationals allows the actors to adopt diverse practical agricultural solutions and at times comparing the various performance of each activity along the firms. This triggers a learning process that benefits all the participants and informing the decision making process of the firms. Firms participating in the SAI are more compelled to implement the sustainable agricultural practices even without any monitoring or the threat of penalties because of the high shadow of anarchy they are exposed to in the form of reduced yields as a result of climate change.

Many of these global standards often spill over to the national and local level. In these instances some "visionaries" adopt the role of the "inspector" as part of a facilitation process to ensure that their supply chain adopt these global standards. Unilever's SAI initiative in Kenya illustrates this governance contribution. In this case, Unilever deploys supervision activities over its suppliers, mostly the smallholder farmers to ensure that they adapt to climate change by practising sustainable agricultural practices. At the local level Unilever partners with Rainforest Alliance and the Kenya Tea Development Agency (KTDA) to certify the farmers to ensure that they meet the expected standard. Normally these supervision functions are often carried out by public regulatory officials, for example agricultural extension officers. However, due to the low levels of statehood in Kenya and the high mutual investment in Unilever's relationship with the smallholder farmers, the firm is compelled to carry out these supervision functions. Therefore, it is hoped that this form of private ordering by Unilever helps reduce contractual hazards which could occur if the smallholder farmers fail to produce the quality coffee and tea which Unilever requires as a contractual buyer.

At the national level, some "visionaries" also participate in multi-stakeholder partnerships in setting and implementing the rules on issues such as water management. Evidence from the research indicates that in these collective initiatives it is often expected that little opposition will arise from the private actors when they bear the implementation costs because they are involved in setting the rules. The literature argues that this mode of governance has high levels of institutional capacity which enables the partnership to generate both participation and legitimacy (Backstrand, 2006; 2008). The multi-stakeholder nature of such partnerships, for example Sasol's Vaal River Strategy Steering Committee allows for learning and knowledge transfer. Furthermore, complex tasks such as adaptation which require a steep learning curve, the pooling of resources and sharing knowledge

through these collective actions increases the chances of governing common pool resources such as water.

At the local level, “visionaries”, are also involved in partnerships with NGOs. However, in Kenya most the climate change private sector-NGO relationships are philanthropic whilst in South Africa they are mostly transactional (Austin, 2000). The philanthropic partnerships tend to undermine the governance contributions of the partnerships partly because the rules of interaction are narrowly defined. As an example, the philanthropic relationship between Total Kenya and the NGOs it partners with in the tree planting is very confined in terms of resources deployed and points of interaction. For Total Kenya the partnership is more incidental but somewhat more important to the NGOs as it gave them an opportunity to extract resources, mostly finance. As a result, the NGO’s had a “fund raising mentality” aimed at extracting resources and if successful not bother the company. On the other hand, in the transactional relationship between Nedbank and WWF, the cornerstone of the relationship is through the identification of overlapping missions and a compatibility of values (Austin, 2000).

Whilst some of the climate change contributions of the “visionaries” contribute to adaptation, it is evident from the research that most the collective self-regulation still focus on mitigation. As illustrated in the research, adaptation requires a lot of time and effort in addition to greater levels of “sensemaking”. Hence, climate change adaptation is associated with greater levels of task complexity (see Börzel *et al*, 2013). On the hand, most mitigation efforts require less effort and time. Further, since adaptation mostly operates at the local level through mechanisms such as land use, agriculture, urban planning and water supply it is difficult for global or even national collective modes of governance to address the issues because the responsibility to take action is not that apparent (Klein *et al*, 2005; Swart *et al*, 2005). In contrast, mitigation operates at a global scale allowing a broad range of actors to participate efforts such as carbon trading which aim to reduce GHG emissions. Nonetheless, some of the REDD voluntary projects financed by the Nedbank-WWF partnership in the area of carbon sequestration through afforestation, restoration and avoided deforestation benefit adaptation, although not always explicitly. Currently the financial incentives for corporate engagement in adaptation seem to be very limited, in contrast to mitigation where a clear linkage to global carbon markets can be seen (Pinkse and Kolk, 2012). However, in recent years there seems to be an overall shift in policy towards adaptation. This shift in developing countries is driven by the realisation by policy makers that their geographical location is relatively more vulnerable to the potential consequences of climate change.

7.2. Variation in the governance contributions

My analysis confirms the relevance of the various drivers identified in the literature review chapter. However, in this section l further explain the relationship between the drivers. My literature review suggests that the key drivers of corporate climate change responses are associated with institutional and competitiveness factors, which I expected to vary across countries, sectors and types of companies. Accordingly, my sampling strategy focused on two countries with varying levels of socio-economic and institutional development (Kenya and South Africa); three different sectors (banking and finance, food and drinking manufacturing, and industrial and allied); and large, multinational companies as well as smaller, domestic companies. My empirical analysis confirmed systematic variations between climate change governance contributions across these dimensions.

First, corporate climate change governance contributions vary between Kenya and South Africa. It is evident from the content analysis and case studies that South African companies have more comprehensive and advanced climate change governance contributions than Kenyan companies. The main contributor to this variance is these countries' different levels of statehood. In South Africa, the shadow of hierarchy plays a more significant role in driving the private sector to contribute to climate change governance. Therefore, the threat of regulations such as the carbon tax drives companies to engage in climate change. On the other hand, the governance contributions of Kenyan firms are low due to the higher levels of limited statehood of the country, which does not have sufficient regulatory capacity to enact and enforce climate change regulation. Furthermore, the public policy in Kenya is heavily focused on pro-growth policies which do not adequately integrate climate change, creating misaligned incentives for companies.

At the global level, the Kyoto Protocol and regulations from foreign governments often commit MNCs to commit to collective self-regulatory initiatives. As a global climate change regulatory framework, ongoing negotiations within the Kyoto Protocol will require all countries to have some form of emission reduction targets. Whilst Kenya might not be compelled to set emission reduction targets due to its low carbon emissions, South Africa is expected to have some form of reduction targets. The country has already committed to an emission reduction trajectory that will peak 34% below a "business as usual" trajectory by 2020 and 40% in 2025. These targets have put pressure on carbon intensive sectors in particular to commit to mitigating the GHG emissions. The commitments linked to the Kyoto Protocol have also resulted in the introduction of the National Climate Change Responses Strategy and other climate change related policies such as the carbon tax.

Despite the presence of a shadow of hierarchy in South Africa, the ineffectiveness of state regulations also induced companies to engage in climate change governance. In Kenya, the absence of a shadow of hierarchy also influenced some firms to engage in climate change governance. Companies have little faith in the capacity of both the South African and Kenyan governments to provide for reliable energy supplies. As a result of the shadow of anarchy, a lot of firms, particularly energy intensive companies sign up to the Energy Efficiency Accord. This illustrates that the shadow of hierarchy and anarchy can work side by side, affecting different aspects of a governance problem.

Second, the climate change governance contributions also vary between sectors. My analysis of the findings shows that "high salience sectors" which are exposed to higher levels of regulative, physical and economic risks from climate change tend to have more extensive contributions than "low salience" sectors. These variations are a result of a combination of factors which include sectoral institutions and problem pressure. Carbon intensive sectors such as heavy industrial and allied were more engaged in co-regulation and self-regulation than the banking sector because they had the support of sectoral institutions. For example, in Kenya, the manufacturing sector was mainly active in the Energy Efficiency Accord due to the support of the Kenya Association of Manufacturers (KAM). Associations such as KAM help to solve collective action problems among firms such as energy insecurity. The literature indicates that in the market, the temptation for an individual firm to take advantage of its competitors complying with strict environmental standards is very high (Debus and Thauer, 2009). As a result, firms will tend to free-ride on other companies' innovations. These problems are often attenuated by the discipline imposed by associations (Debus and Thauer, 2009). In this research, KAM ensures this discipline by monitoring the implementation of the EEA. In addition to this, KAM has been able to mobilise financial and technical resources to support the EEA. Mobilisation of resources to support corporate self-regulation is usually difficult if the associative structures in the industry are weak.

The research also revealed that sectors with strong associations and high associative memberships of firms at the national level were more opposed to stricter national regulations. This indicates that the strong associative structures tend to undermine the shadow of hierarchy. In South Africa, the Energy Intensive User Group (EIUG) is engaged in political activities to oppose the carbon tax. In this case, associations are used to reduce the regulatory risks and subsequent pressure from civil society to regulate business. In contrast, firms with weak associative membership of firms, for example the auto-industry in South Africa engage in a regulatory "race to the top" and voluntarily subject themselves to costly regulatory requirements and/ or demanding governments to issue stricter environmental regulations (Börzel *et al*, 2011). Firms in these sectors engage in this regulatory "race

to the top" to gain a competitive advantage over their peers and deflect pressure from NGO campaigns that may damage their reputation.

In addition to the influence of strong associative structures, energy intensive companies are often compelled to engage in adaptation because of the combined effect of the shadow of anarchy and task complexity which is magnified by problem pressure. Firms in "high salience" sectors such as utilities and heavy manufacturing have their core activities at stake because most of their business models are threatened by regulative, economic and physical risks (Kolk and Pinkse, 2012) As illustrated in the research, energy intensive companies are also exposed to complex problems such as energy insecurity and water availability. Managing common pool resources such as water and energy is a complex task which requires the companies to cooperate with various stakeholders. However, the state in Kenya and South Africa has limited capacity to address complex tasks such as efficient energy or water supply. Therefore, energy intensive firms such as Sasol collaborate with other non-state actors in managing the Vaal river water catchment.

Lastly, the research revealed variation between companies, particularly, among large, multinational firms and smaller, domestic firms. The results show that large, multinational firms have more comprehensive mitigation and adaptation contributions than smaller, domestic firms. This variation is explained by mostly organisational factors which are independent from statehood. At the supply chain and local level, Unilever, a food and drink manufacturing multinational adopted the role of "inspector" vis a' vis their supply chain. This governance contribution is mainly driven by the asset-specific relationship that Unilever has with their supply chain. The investments that the company has with small-holder farmers in Kenya and tea estates are irreversible. Furthermore, there are fewer locations in the world which have the suitable climatic conditions to growing tea as compared to the Rift Valley in Kenya. Hence, they cannot turn to other sources of supply, since other locations do not grow the same quality of tea. For the 40 000 smallholder farmers, Unilever is the dominant buyer of tea in the world; therefore, they engage activities which sustain this buyer-supplier relationship. To support these empirical findings, Williamson (1975) argues that actors involved in a contractual agreement tend to be opportunistic and tempted to cheat on their contractual obligations because it is profitable or because of lack of capacity. This implies that due to the lack capacity or the need to maximise profits, small-holder farmers might not fulfil their contractual obligations of supplying Unilever with high quality and sustainably grown tea. Given this bounded rationality and transaction costs involved, buyer firms such as Unilever will devise governance rules "to reduce contractual hazards" (Heritier *et al*, 2009). Therefore, Unilever ensures that its suppliers are certified as part of a guarantee that they will produce tea using sustainable agricultural practices.

Furthermore, large companies usually posses unique capabilities and culture which allows them to make investments in climate change mitigation and adaptation. As a result, a distinguishing feature of the "visionaries" cluster is an explicit leadership commitment to sustainability and/or climate change. Unilever, one of the few companies which contributes to adaptation possess the organisational resources which allow them to make sense of the complex problems of water shortages and soil fertility which are linked to climate change. The "ecological sensemaking" capabilities (Whiteman and Cooper, 2011), also allow the multinational to be physically and culturally rooted in climate change science and its impacts. The embededdness in the ecological systems continually exposes the staff to the physical, economic and regulative risks that the company is facing. Hence, the organisational culture will tend to slowly transform, with sceptics becoming more accepting of the need to contribute to climate change governance.

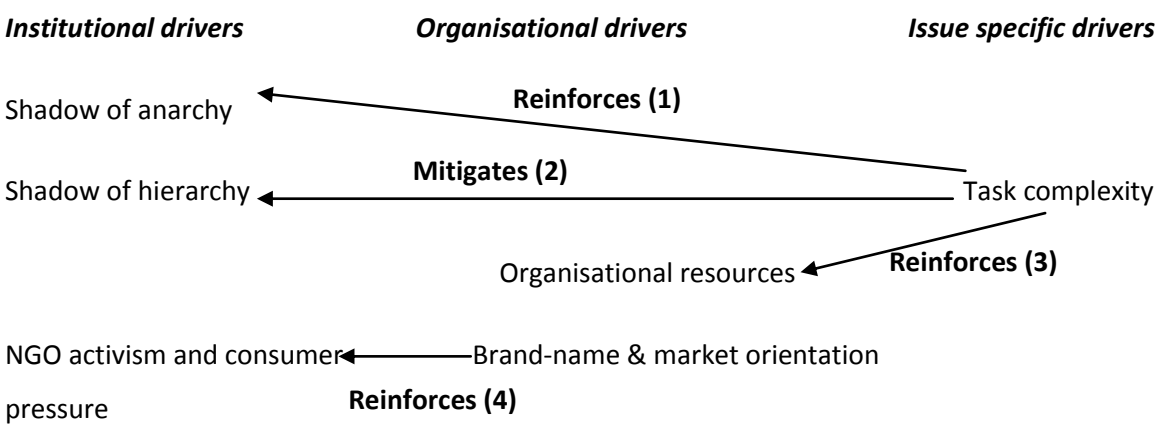
Large, multinational firms have been more responsive to the combined effect of the shadow of hierarchy and anarchy than domestic firms because of the reputational gains they hope to gain by signalling their intention to contribute to climate change governance. Reputation is often considered to be an intangible asset that is extremely hard to imitate turning it into a valuable source of competitive advantage (Mahon, 2002; Hunt and Morgan, 1995; Eberl and Schwaiger, 2005). As a result, multinationals which often operate in highly institutionalised environments engaged in self-regulation to improve their reputation with different stakeholders. Nedbank contributes to climate change governance because they want to maintain their perceived brand as South Africa's "green bank".

Furthermore, the global discourse on corporate environmental responsibility as embodied in initiatives such as the Global Compact or the Carbon Disclosure Project has created a strong societal expectation about what constitutes appropriate business behaviour. As a consequence, the multinational firms in the study were increasingly aware of the need to establish and defend their corporate images in the eyes of customers, investors and stakeholders regarding climate change. NGOs were also becoming more strategically important as they provide customers, investors and the media with information on business behaviour. Hence, NGO pressure is incentivising firms to contribute to climate change governance. In efforts to manage these reputational risks, the large firms often entered into collective arrangements with some of these NGOs, for example, Nedbank's partnership with WWF.

The analysis of the findings also shows that the various drivers are alternative rather competing in inducing business governance contribution to climate change. In addition to working simultaneously,

some of the drivers enhance or mitigate each other. Statehood is a significant factor in the context of these possible alternative explanations (figure 7.1).

Figure 7.1: Interaction of drivers at the institutional, organisational and issue-specific level



Firstly, task complexity intensifies shadow of anarchy (1) but weakens the shadow of hierarchy (2). This interaction indicates that the state was unable to provide governance of common pool resources such as water and energy because of the complexity involved in managing them. The shortages in water and energy threaten the companies' productivity and competitiveness. The high level of complexity of the problem and the perception among business that the state was unable to provide governance to manage the water resources and energy supply induced the firms to contribute to climate change governance. Secondly, the shadow of anarchy is reinforced when the problem pressure is relatively high (1). This entails that firms which were highly exposed to water or energy shortages were more likely to collaborate with either the state or other non-state actors to manage the resource because the absence of action was likely to undermine their competitiveness.

In the analysis, there is interaction which is also independent of statehood. Firstly, high reputational risks reinforced NGO activisms and consumer pressure (3). This means that companies such as Nedbank which have a brand to protect were more vulnerable to NGO pressure to contribute to climate change governance. Likewise, firms such as Woolworths which catered for high end markets where consumers are very conscious about climate change and its impacts faced more pressure from these consumers to contribute to climate change governance. Secondly, increased task complexity reinforces organisational resources (4). This explains the fact that due to the complexity involved in adapting to the impacts of climate change, firms invested more organisational resources.

These organisational resources allowed for companies, particularly, the “visionaries” to make sense of the problem.

7.3. Contributions to literature

This thesis discussed the role of business in climate change governance in areas of limited statehood, using South Africa and Kenya as the case study countries. This study attempts to contribute to the governance literature which aims to understand the role of non-state actors in the formulation and implementation of public policies. It is hoped that non-state actors such as business firms can improve the governance of public common goods such as the climate change by bringing in their expertise and interests (Reinicke, 1998; Reinicke *et al*, 2008).

This research revealed that business firms can contribute to climate change governance in areas of limited statehood. However, in South Africa, despite some governance deficits some of these non-hierarchical modes of steering (for example, co-regulation) are effective if there is a legitimate threat of force through regulations. Therefore, the threat by the state to explicitly or implicitly impose binding rules on business firms can incentivise them to engage in non-hierarchical rule making collectively rather than to act in self-interests (Heritier and Lehmkuhl, 2008; Börzel ans Risse, 2010). Due to the greater flexibility in self regulation, companies often attempt to avoid legally binding regulations. Furthermore, the threat of regulations reduces the incentive of companies to renege of their voluntary commitments (Börzel and Risse, 2010). Whilst business associations have the responsibility to monitor the implementation of voluntary accords they still do not have the sanctioning capacity to deter business from not committing to the targets in the accord or engage opportunistic behaviour such a free-riding. Therefore, this research reinforces the argument that nation states are still at the centre of decision making in climate change governance, as they have the power to issue and reinforce domestic regulation (Clarke and Newman, 1997; Jessop, 1997).

However, as the case study in Kenya revealed, the absence of a shadow of hierarchy does not necessarily imply the absence of governance. This research argued that there are functional equivalents to the shadow of hierarchy cast by the state. At the global level and at times at the national level external actors such as international organisations can substitute for a lacking shadow of hierarchy in areas of limited statehood. Furthermore, normative forces from local, national or international communities often create a strong logic of appropriateness so that the reputation of

the private sector to contribute to governance is at stake (March and Olsen, 1998; Börzel and Risse, 2010). On one hand these norms are transmitted by NGOs, and on the other hand multinationals operating in these areas of limited statehood transmit them to the national and local level. In response to these normative pressures, private actors engage in self and collective self-regulation; co-regulation and involvement in public regulation.

More so, the private sector may contribute to the governance of public goods due to the logic of consequence (March and Olsen, 1996; 1998; Weber and Kopelman, 2004). This implies that business firms as rational actors contribute to climate change governance if the pursuit of their individual profits depends on the provision of common goods such as energy and water and collectively binding rules to produce them are absent. With reference to the research, this shadow of anarchy created by the Kenyan and South African governments' inability to provide secure energy and water compelled companies to contribute to setting and implementing rules to govern these resources, consequently, enabling them to adapt to climate change. The presence of a shadow of hierarchy and anarchy in areas of limited statehood implies that these drivers can work side by side, affecting different aspects of governance.

While the research findings indicate the importance of governance factors in motivating companies to engage in climate change governance, the empirical findings also suggest that organisational factors have a significant role to play in driving firms' contributions. These factors include asset specificity (Heritier *et al*, 2009; Williamson, 1988; 1991; Riordan and Williamson, 1985) and organisational capabilities and culture (Teece, 2007; Teece *et al*, 1997; Eisenhardt and Martin, 2000; Whiteman and Cooper, 2011). These organisational factors could also account for the variation in governance contributions between firms of different sizes (this is discussed below). More so, companies with significant organisational capabilities were able to respond to adaptation, which is a complex task. Therefore, as the complexity of the task increased, for example ensuring water supply (this is linked more to adaptation than mitigation), the capacity of the state to enforce rules plays a relatively lesser role (Börzel and Hamann, 2013). Instead the shadow of anarchy combined with asset specific relationships and organisational capabilities and culture become more influential.

This study also highlights the importance of task complexity, a contextual feature which has not been extensively discussed in explaining companies' ecological responses. Due to the greater time frame and effort required to adapt to climate change, the task complexity is greater than

implementing mitigation initiatives. Similarly, task complexity is notably higher in ensuring energy security than in, say, devising and implementing a carbon tax. Therefore, the high levels of task complexity in climate change adaptation and in securing energy supply give rise to a relatively stronger shadow of anarchy. As illustrated by the collective nature of the Energy Efficiency Accord, companies respond to the shadow of anarchy through collective business initiatives which involve cross-sector partnerships. Nevertheless, the state still plays an important role in facilitating these partnerships (Berkes, 2009; Selsky and Parker, 2005).

As highlighted above, management literature has focused mostly on mitigation while neglecting adaptation. This could be the case because most of the corporate sustainability literature has focused on areas with consolidated statehood in developed economies (Pinkse and Kolk, 2009; Hoffman; 2008; Rothenberg and Levy, 2012). Climate change models indicate that most developing economies in areas of limited statehood are going to be severely affected by climate change, more so than developed economies (Schlenker and Lobell, 2010). This research is among the first to integrate climate change adaptation more explicitly into the empirical analysis, building on theoretical models in the climate change adaptation literature (Moser and Ekstrom and others (O'brien, 2012; Fussel, 2008). These authors argued that companies' adaptation strategies can range from coping mechanisms to system and business model transformation. This research provided some empirical evidence to support this theorisation of adaptation, particularly with regard to Unilever's strategy to transform its business model towards a more sustainable global brand. Furthermore, the research revealed that corporate adaptation efforts are driven primarily by the shadow of anarchy and asset specificity and that they require particular organisational capabilities akin to ecological sense making (Whiteman and Cooper, 2012).

Another important argument presented by this thesis relates to the variation in climate change governance contributions between countries, sectors and within sectors. Whilst the shadow of hierarchy and anarchy plays an important role in driving business firms' governance contribution, the presence of the climate change issue in the public domain seems to differentiate the contributions between the two countries. With regard to sectoral differences, it emerged that sectors with strong associative structures and memberships were more likely to engage in self regulation. This is because associations were more capable at solving collective action problems among firms and could mobilise advocacy support for corporate self-regulation (Debus and Thauer, 2009). In addition to this, it is apparent that firms in different sectors face different pressures and opportunities for both climate change mitigation and adaptation. Therefore, firms in "high salience

sectors" such as oil and energy will face more regulatory, physical and economic risks which will compel them to self-regulate. Within the sectors, smaller firms with insignificant asset specific-relationships, limited organisational capabilities and reputational risks will most likely not participate in self-regulation. In contrast, multinationals or large listed companies with will more likely contribute to climate change governance because they face more institutional pressures. More so, these firms often have high asset specific relationships with their supply chains and posses adequate resources to self-regulate or adopt the role of inspector over other actors.

7.5. Avenues for future research

The discussion above can also point to future research opportunities emanating from this research. Firstly, the term "limited statehood" is very broad and applies to countries with varying levels of statehood. This means that it might be unrealistic to generalise the results to all areas of limited statehood. As a result, more empirical data in necessary from other areas which experience varying levels of limited statehood. Furthermore, some countries which are considered to have consolidated statehood, such as USA might have relatively low levels of shadow of hierarchy to influence companies to contribute to governance because the state seems unwilling to steer non-state to engage in governance. Secondly, the fact that Unilever was the only company which implements comprehensive climate change adaptation strategies leaves a gap in understanding and querying the current adaptation theories. Therefore, more research is called for to better understand the antecedents of adaptation efforts such as transformation of business models.

Secondly, while significant knowledge has been gained regarding the contextual factors driving business contributions to environmental and social governance (Bansal and Roth, 2000; Hönke *et al*, 2008; Debus and Theaur, 2009; Okereke, 2007), few studies have explored the social-ecological context and dynamics in which business activities are taking place. Therefore, there is need for more research to understand the notion of ecological embeddednes in business responses to social and environmental issues. This will contribute to the emerging literature on ecological sensemaking (Whiteman and Cooper, 2012).

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Appendices

APPENDIX 1a: Cluster centres for combined data in South Africa and Kenya

	Cluster			
	4	3	2	1
VAR00001	2.92	1.65	2.89	.28
VAR00002	2.83	1.35	2.67	.18
VAR00003	3.00	1.76	2.56	.18
VAR00004	2.92	1.35	2.00	.03
VAR00005	2.83	1.12	2.11	.02
VAR00006	3.00	2.12	2.33	.23
VAR00007	3.00	1.88	1.67	.10
VAR00008	3.00	1.29	1.33	0.00
VAR00009	2.83	.94	2.33	.07
VAR00010	2.83	.76	2.00	.03
VAR00011	1.92	.29	.56	0.00
VAR00012	2.92	1.76	1.78	.20
VAR00013	2.92	1.65	2.89	.28
VAR00014	2.83	1.35	2.67	.05
VAR00015	.33	0.00	0.00	0.00
VAR00016	2.83	.82	1.78	.05
VAR00017	.75	.12	.44	0.00
VAR00018	1.92	.29	.56	0.00
VAR00019	2.92	1.76	1.78	.20
VAR00020	2.00	1.12	1.44	.03
VAR00021	3.00	1.24	2.44	.10

VAR00022	2.83	1.18	2.33	.02
VAR00023	2.08	1.06	1.89	.07
VAR00024	3.00	1.65	2.44	.10
VAR00025	2.83	.53	2.44	.05
VAR00026	2.33	.24	.44	0.00
VAR00027	2.50	.12	1.44	.02
VAR00028	2.17	1.18	1.67	.10
VAR00029	2.83	.53	2.44	.05
VAR00030	1.67	.24	1.56	.02
VAR00031	1.75	.47	.89	0.00
VAR00032	1.67	.47	.89	0.00

Appendix 1b: Cluster centers for data in South Africa

	Cluster			
	4	3	2	1
VAR00001	3.00	2.67	1.67	.16
VAR00002	0.00	2.67	1.67	0.00
VAR00003	3.00	1.67	1.33	.26
VAR00004	3.00	1.00	.67	.05
VAR00005	0.00	1.67	0.00	.05
VAR00006	3.00	.33	0.00	.03
VAR00007	2.00	0.00	0.00	0.00
VAR00008	1.00	0.00	0.00	0.00
VAR00009	3.00	1.00	1.33	.03
VAR00010	3.00	.67	0.00	0.00
VAR00011	1.00	0.00	0.00	0.00
VAR00012	1.00	1.33	0.00	0.00
VAR00013	3.00	2.67	2.00	.34
VAR00014	3.00	2.67	1.67	.16
VAR00015	0.00	3.00	1.67	.05
VAR00016	0.00	2.67	1.67	0.00
VAR00017	0.00	.67	.33	0.00
VAR00018	1.00	0.00	0.00	0.00
VAR00019	1.00	1.33	0.00	0.00
VAR00020	3.00	.67	.67	.26
VAR00021	0.00	.67	2.00	0.00
VAR00022	0.00	.33	2.00	0.00
VAR00023	0.00	.33	2.00	0.00
VAR00024	3.00	1.67	2.00	.24

VAR00025	2.00	1.00	.67	.08
VAR00026	3.00	3.00	1.67	.11
VAR00027	2.00	1.33	1.00	.24
VAR00028	0.00	0.00	.67	0.00
VAR00029	2.00	1.33	1.00	.24
VAR00030	2.00	.33	.33	0.00
VAR00031	2.00	0.00	.33	.03
VAR00032	1.00	.33	1.00	0.00

Appendix 1c: Cluster centers for data in Kenya

Final Cluster Centers

	Cluster		
	3	2	1
VAR00001	2.36	1.70	.18
VAR00002	1.73	1.45	.10
VAR00003	2.18	1.50	.17
VAR00004	1.91	.85	.02
VAR00005	1.27	.85	.02
VAR00006	2.82	.95	.14
VAR00007	2.55	.65	.06
VAR00008	2.18	.30	0.00
VAR00009	1.82	.70	.04
VAR00010	1.55	.40	.01
VAR00011	.45	.10	0.00
VAR00012	2.09	.90	.12
VAR00013	2.36	1.70	.27
VAR00014	2.18	1.50	.05
VAR00015	0.00	.75	.01
VAR00016	1.27	.95	.02
VAR00017	.18	.20	0.00
VAR00018	.45	.10	0.00
VAR00019	2.09	.90	.12
VAR00020	1.45	.85	.10
VAR00021	1.55	1.00	.05
VAR00022	1.45	.95	.01
VAR00023	1.27	1.00	.03
VAR00024	2.00	1.70	.12

VAR00025	1.27	.70	.04
VAR00026	.36	1.00	.02
VAR00027	.64	.55	.08
VAR00028	1.27	.80	.04
VAR00029	1.27	.80	.11
VAR00030	.55	.25	.01
VAR00031	.82	.20	0.00
VAR00032	.73	.30	0.00

Appendix 2a: List of interview respondents in South Africa

Name	Affiliation	Position/Job description
Wendy Engel	Absa Capital	Economist
Karin Ireton	Standard Bank	Sustainability manager
Nigel Beck	Standard Bank	Head, Environmental Investment Banking
Marco Lotz	Nedbank	Sustainability Carbon specialist
Brigitte Burnet	Nedbank	Stakeholder engagement manger
Mike Peso	Nedbank	Head of Infrastructure, Energy & Telecommunication
Gus Silber	Capitec	Marketing manager
Louise Duiys	Unilever South Africa	Sustainability Manager
John Coyne	Unilever	Global brand manager
Maharaj Singh	Unilever South Africa	Strategist
Nadine Watson	Illovo Sugar	Marketing Director
Naadhira Royen	Orley Foods	Corporate Communications Manager
Fred Goede	Sasol	General Manager Health and Environment
Mike Mullain	Sasol	Energy engineer
Urishanie Govender	Pretoria Portland Cement (PPC)	Sustainability manager
Glenda Marais	Devra Chemicals	Director
Rohitesh Dhawan	KMPG	Resource Economist
Bhavanhi Daya	KPMG	Environmental specialist
John Hanks	Incite	Consultant

Nicola Roberts	Incite	consultant
Riaan van Dalen	-	Energy consultant
Dawie Roodt	-	Energy Consultant
Greg Stuart	-	Renewable energy consultant
Deon Neil	WWF	Head WWF Biodiversity Unit
Shaun Nel	Energy Intensive User Group(EIUG)	spokesperson
Makoma Lekalakala	Earthlife Africa	Representative
Bobby Peek	Earthlife Johannesburg	Representative
Ninette Polgieter	Stellebosch University	academic
Goodwell Nhamo	UNISA centre for Corporate Citizenship	academic
David Fig	-	Environmentalist/academic
Vincent Zungu	University of Cape Town	academic
Valerie Green	National Business Initiative	Director: Climate & Energy
Barnie Kgope	National Business Initiative	Manager: Climate & Energy
Vincent Mobane	Group FIve	SHE officer
Lindiwe Chauke	Department of Energy	CDM coordinator
Blessing Manale	DEAT	Chief Directorate: Planning And Coordination
Mark Gordon	Department of Environmental Affairs and Development Planning Western Cape Provincial Government	Director Strategic Environmental Management

Appendix 2b: List of interview respondents in Kenya

Name	Affiliation	Position/job description
Anne Kabugi	Standard Chartered Bank	Head of brand & corporate communications
Chico Kaitani	Standard Chartered Bank	Senior strategist
George Karabo	Kenya Commercial Bank(KCB)	Risk Manager
Peter Nyaga	Family Bank	Legal representative
Margaret Mwauri	Unilever	Brand Building Director
Agatha Mwenenji	Unilever	Senior strategist
Peter Mbadi	Kenya Tea Development Agency	Assistant Agriculture Manager
Mr Kaitani	Mumias Sugar	Engineer
Jerome Kawara	Mumias Sugar	Operations manager
Mvuti Njere	Kuguru Foods	Marketing manager
Odhiambo K'Anjejo	Total Kenya	Corporate Affairs Director
Silvestre Makaka	Athi River Mine	Engineer/KAM Energy Advisor
Martin Shawari	Athi River Mine	Engineer
Pail Odupah	PZ Cussons	Marketing manager
Verinder Sharma	-	Banking sector consultant
Sashen Gudika	KPMG	Auditor
Mumo Kivuiti	Ufadhili Trust	Executive Director
Judy Njino	Ufadhili Trust	Program officer
Maggy Opondo	University of Nairobi	Researcher/lecturer
Carol Kiriuki	Kenya Private Sector Alliance	Chief Executive Officer
Joseph Nyanga	Kenya Energy Regulatory Commission (ERC)	Licensing & compliance officer

Pauline Kitu	National Environmental Management Authority	Environmental legal officer
Polycarp Igathe	Kenya Association of Manufacturers (KAM)	chairman
Betty Maina	KAM	CEO
Mary Kiema	KAM Center for Energy Efficiency & Conservation (CEEC)	Executive officer
Hilary Rono	KAM CEEC	Program manger